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| **RESEARCH ARTICLE**

Descriptions of Kinyarwanda Paradigmatic Relations within the Prototype Theory

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| **ABSTRACT**

This article describes paradigmatic relations in Kinyarwanda language. Most of the available literature on paradigmatic relations has not addressed this topic in Bantu languages. That is what motivated the author to do this analysis. The study is qualitative in nature, and it employed a case study design, with Kinyarwanda as the case. Convenience sampling procedures were used to obtain the sample for the study. Three native speakers of Kinyarwanda were selected purposively by virtue of their availability and competence in the Kinyarwanda language. Two of them were trilingual. Unstructured interviews were used to collect data from the respondents. After analyzing the data, eight (8) paradigmatic relations were revealed. These are polysemy, hyperonym, homonyms, synonyms, homographs, metonyms, patronyms, and Meronyms. The paper does not claim to have exhausted all angles of the topic under discussion. Other areas, like syntagmatic relations, need investigation to shape and develop linguistic theories on African languages.

1. Introduction

The notion of sense relations is referred to by using many terms such as semantic relations, meaning relations, lexical relations and paradigmatic or syntagmatic relations (Storjohann, 2015:14). It is a topic that has attracted the attention of many Semantists, including Lyons (2002); Cruse (2002a, 2002), Lehrer (2002), Cann (2011) Sinclair (1991) Paradis (2005) to name a few. These linguists have described sense relations in other languages, including English, leaving a knowledge gap in other languages, such as Kinyarwanda.

Understanding sense relations is very important in the study of language at both semantic and pragmatic levels due to the fact that lexemes are semantically elastic as they may capture communicative meanings that only correspond to their immediate context of use. Thus, sense relations are connected to the competencies of the speakers of the language concerned. To evidence this, Riemer (2010) says:

> It would seem that the members of a linguistic community must be able to construct relations between different expressions in order to understand each other. Being genuinely able to speak a language involves understanding the equivalence or the differences between different phrases, in other words, mastering the relations of synonymy and paraphrase; it involves the ability to draw out the consequences of a given utterance, and the ability to sequence utterances in a reasonably coherent, intelligible way; the ability to reformulate one's own messages in different ways, make one's expression tighter or looser according to the demands of the situation…'' (Riemer, 2010:136).

With this regard, knowledge about sense relations is the topic of interest among speakers of the language concerned. According to Ibiden (2010), knowing the meaning of an expression is not merely about being aware of its definition or inherent semantic content or knowing a word's literal meaning. A competent speaker knows how the expression relates toother words of the language. A fine-grained classificatory account of sense relations has been offered by Munyaya (2017:4), who treats **s**ense relations as an important characteristic in the definition of the communicative meaning of the structures of a language, and these relations may be captured at two levels, namely: the formal semantic pragmatic level and the contextual pragmatic levels.

Kinyarwanda is a Bantu language spoken in Rwanda (Banerjee, 2018). Many Bantuists have documented different aspects of the language in Kinyarwanda. For instance, Bostne (1983)did a study on the ' semantics of tense in Kinyarwanda language''; Banerjee (2019) has written on the ''templatic morphology of valency-changing extensions of Kinyarwanda''; Gabriel (2017) has written on ''variation of Kinyarwanda among its native speakers by using a synchronic approach''; Jerro (2003) has written about '' the semantics of the applicative in Kinyarwanda''; and Jacques (2010) has written on ''loanword allocation in Kinyarwanda language'' to mention just but a few.

2. Literature Review

Various Semantists have researched semantic sense relations. For instance, Murphy (2003) described lexical sense relations by focusing on the paradigmatic semantic relations among words as synonyms, antonyms and hyponyms and their relevance to the mental organization of our vocabularies. As quoted in Munyaya (2017), Murphy argues that, whereas many traditional approaches assume these paradigmatic relations to be part of our lexical knowledge and constitute metalinguistics knowledge which can be derived through a single principle and which may also be stored as part of our extra-lexical, conceptual representations of words, these theories fail to analyze the relations. Instead, they just define them. Therefore, the current study goes beyond analysing sense relations in the Kinyarwanda language spoken in Rwanda.

In his book titled *'Semantics',* Saeed (2003:53-71) has discussed several types of lexical relations in the English language, namely homonymy, synonymy, opposites, hyponymy and Meronyms and their semantic descriptions. Saeed's study focused only on the English language pacer, thus leaving a knowledge gap pertaining to lexical sense relations in other languages, including Kinyarwanda, a topic which has not been of interest to many linguists.

Within the framework of cognitive linguistics, Blunter (1998) discussed the lexical pragmatics of adjectives, polysemy and compound words. The study is very significant to the current study as it forms a point of reference when discussing sense relations (cf. polysemy) and its principled account guiding semantic interpretations. Since Blunter dealt only with the pragmatics of adjectives, the current investigation goes further by analysing the pragmatics of other sense relations, paying attention to paradigmatic sense relations of verbs, nouns and other word classes.

Fischer(2000) investigated the general semantics of polysemous discourse particles and explained how particular lexemes get their functional interpretations in particular contexts. His investigation was centred on English closed or functional word categories such as 'yes', 'yeah and 'oh', which perform a wide range of functions in the related semantic scopes. The study was not exhaustive enough because 'yes' does not always imply 'oh' and vice versa; rather, it is the illocutionary force that determines its meaning. Therefore, the current investigation surveys sense relations in the Kinyarwanda language because the language seems to be rich in resources in terms of paradigmatic lexical relations pertinent to linguistic contexts.

Mugure (2009) discussed sense relations in the Gikuyu language spoken in Kenya. He discussed synonymy, homonymy and polysemy together with semantic narrowing and broadening. The author concluded that the lexical pragmatic theory works adequately in analyzing homonyms and polysemy under the scopes of narrowing or broadening. While this is true, Lexical Pragmatics Theory could not sufficiently handle synonyms as one of the sense relations in the language under discussion. This is attributed to the fact that each language has peculiarities when it comes to sense relations. Thus, it is logical to study sense relations in other languages (Cf. Kinyarwanda) to see how they are envisioned.

Munyaya (2017) investigated sense relations in the Kigiryama language within a lexical pragmatic framework. Her investigation aimed to identify the lexical pragmatic processes affecting the interpretation of sense relations in Kigiryama. The author assessed the pragmalinguistic dimensions versus the socio-pragmatic dimensions of locutions as meaning bearing elements and how sense relations may move between the purely linguistic and the socio-cultural underpinnings of any language. The study focused on five sense relations, namely, synonymy, homonymy, polysemy, antonyms and hyponymy, and touched Meronym just in passing. We, therefore, recommend that a linguistic study on Meronym be carried out in future to establish whether Meronym is a sense relation or a lexical relation. The current investigation goes further by analysing seven sense relations in Kinyarwanda with the addition of Meronym and metonymy. It also attempts to establish whether Meronym and metonymy are sense relations or lexical relations in linguistics inquiry.

Cann (2011) explored the definitions and interpretations of the traditional paradigmatic sense relations such as hyponymy, synonymy, Meronym, antonym, and syntagmatic relations such as selection restrictions. The discussion covered the structuralism approaches to lexical meaning, with its concomitant view of the lexicon as being structured into semantic fields, leading to more recent work on decompositional approaches to word meaning. The latter is contrasted with atomic views of lexical meaning and the capturing of semantic relations through the use of meaning postulates. The current investigation looks into pragmatic relations in Kinyarwanda language by using the Prototype Theory.

Sweetser (1991) did a study on the multiple meanings of lexemes. His study was centred on English metaphorical and cultural aspects of semantic structure. This study is very interesting as it offers a new approach to analysing multiple meanings of English modals, conjunctions, conditionals and perceptual verbs. The author argues that meaning relationships cannot be understood independently of human cognitive structure as their senses are tied to the metaphorical and cultural aspects of that structure. However, the current study takes a different course in the sense that while Sweetser dealt with English modals, conjunctions, conditionals and perceptual verbs, the current study focuses on metaphors, nouns, verbs and adjectives in Kinyarwanda and the way they envision speakers' cultural aspects.

Ndlovu (2001) investigated sense relations in Isichazamazwi SesiNdebeleby focusing on hyponymy, Meronym and synonymy. Ndlovu argues that hyponyms and Meronyms facilitate the formulation of more user-friendly and accessible dictionary definitions, while the definitions of synonyms reduce user-friendliness. The current investigation identifies seven sense relations in Kinyarwanda language and argues that context is another factor that determines the interpretation of sense relations in the language under discussion.

Theoretical underpinning, a theory is "a coherent set of hypothetical, conceptual and pragmatic principles forming the general frame of reference for a particular field of inquiry (as for deducing principles, formulating hypotheses for testing, undertaking actions)" (*Webster, 1971)*. In a more restricted sense, a theory is a "hypothetical entity or structure explaining or relating an observed set of facts" (Plug, 2002:111). This study used the *Prototype Theory*. This theory was propounded by a number of Semantists after the development of cognitive grammar theory (Langacker, 1982, 1987)**.** These Semantists were Cruse (2004), Taylor (1990), Tsohatzidis (1990), to name a few. It is noted by Cruse (1990:383) that this model was developed as a counter to the 'classical' or 'Aristotelian' view, which associates every category with a set of membership criteria. The model is a culmination of research pioneered by a cognitive psychologist known as Rosch (1978). Her research findings showed that membership to a category is, in most cases, a matter of degree. Rosch (1978) argues that categories, in general, have central or best examples, which she calls 'prototypes' and that there is some gradience from the prototypes to the less central members of the category (Chabata, 2007)

The theory postulates that natural conception categories have a number of properties that are inexplicable from a classical view of prototype characteristics. The theory was selected to be used in this study as sense relations have specified features of modifications as mental entities of their own unities. It must be noted that the Prototype Model differs in major terms from one scholar to another, depending on the topic in discussion (Cruse, 1986). The major tenet of the Prototype Model is organized into core and peripheral conceptions. Chabata, 2007:199) says:

> *One important point that is implicit in these descriptions is the fact that within this model, categories are understood as having a 'core' and a 'periphery'. In this case, the 'best example' or the prototype becomes the core of a category, and it is against it that other members of the category (peripheral members) can best be described or understood*.

This implies that lexical relations can be intentional or extensional properties, e.g. hyponymy, Meronym, oppositeness, synonymy, complementarily, hyponymy, synonymy, incompatibility, to mention just but a few. These are propertilized into features that are similar, nearby, opposite, inclusive or unidirectional. Therefore, the prototype theory is the best theory of lexical relations, which provides formal formulae that account for lexical lexemes and their semantic categories. Example

1.   X and Y are synonyms if F(X) entails and is entailed by F(Y)
2.   X is a hyponym of Y ifF^a(X) entails but is not entailed by F^a(Y)

The interpretation of the principle in (1) above can be that synonymic properties are bilateral with the hyponym in (2) whereby F^a represents an essential function satisfied by X and Y, entailment as expressed here as the relation between the sentences F^a(X) and F^a(Y) (Cruse, 1986). In other words, entailments indicate the symbiotic relationships of these words, such as mangoes and papaws, which are in the entailment of fruits.

3. Methodology

The article is qualitative in nature, and words, phrases, and sentences were applied during data analysis. The choice to use this approach was based on the interpretivism paradigm, under which it is assumed that meanings are derived from the social world surrounding people (Bell, 2007). The study applied convenience sampling, whereby three native speakers of Kinyarwanda were selected purposively because of their availability and competence in the Kinyarwanda language to verify data and ensure authenticity. These speakers were able to speak and write English, Kiswahili, and Kinyarwanda, which made the researcher interview them by either code-mixing or code-switching between English and Kiswahili. Based on their knowledge of Kinyarwanda, they were suitable for the unstructured interview used to collect data in this study (Cf. Bryman, 2008:700). The researcher prepared an interview guide in Kiswahili and English, which were mainly on nouns, adjectives and verbs since they have opposites and this was restricted to the Southern dialect of Kinyarwanda language. The context and definition of each sense relation were explained to the speakers to make it easier for them to provide Kinyarwanda lexemes and their associated senses. The data from the field were analysed thematically under the guidance of the Lexical Pragmatic theoretical Approach (Wilson, 2006) within the scope of lexical semantics and lexical pragmatics.

4. Results and Discussion

This subsection discusses paradigmatic sense relations of the Kinyarwanda language. The paradigmatic semantics relations hold between words of the same general category or type and are characterized in terms of contrast and hierarchy (Cann, 2011: 455).

Polysemy is one among the sense relations whereby the meaning of the lexemes is considered to be related (Saeed, 2003). In the same line of thinking, polysemy can be defined as one form (written or spoken) having multiple meanings that are related by extension (Yule, 2006:107). Therefore, polysemous words have the same morphological and phonological form, and their semantic scopes are related to space, place, action, and nature. Consider the following data from the Kinyarwanda language.

3. (a) **Komeza**
    [i] Proceed-continue
    [i] Cause to proceed
    [ii] Do the same way

(b) **Komera**
    [i] Sorry or condoles
    [ii] Pull up your socks
    [iii] Be mature please

(c) **Ingobyi**
    [i] Shroud
    [ii] Hammock
    [iii] Baby carrying clothes

(d) **Mutoya**
    [i] Young
    [ii] Little
    [iii[Small

(e) **Umukuru**
    [i] Bigger
    [ii] Head
    [iii] Above

(f) **Iciraro**
    [i] aid
    [ii] bridge
    [iii] Head

The words in 3 have related meanings within the same domain of the given lexeme. This is clearly within cognitive grammar, whereby a lexeme is conceptualized in a related context. Taylor (2002:196) points out that those polysemous words and their related senses or formal-logical conditions do not contextualize out of the target domain. If a superordinate or hyperonym such as *animal* has more than one hyponym (e.g. *dog*, *cat*, *mouse,* etc.), these are linked as incompatibles or co-hyponyms (Cf, Saeed, 2003; Storjohann, 2005; Cruse, 1986). Incompatibility (co-hyponymy) exists between members of sets of the same hierarchical level and, therefore, holds between items referring to the same semantic field or domain. They form sets of terms denoting specific kinds of their common superordinate. These sets designate disjunct classes that do not share members.

Hyperonym: is another lexical relation found in Kinyarwanda language whereby a word, usually a noun, is in a relation of inclusion. In other words, a hyponym carries the meaning of a more general word (Saeed, 2003:68). It must be noted that the more specific is known as a hyponym, while the more general is known as a hyperonym. Literature shows that if a superordinate or hyperonym, such as the word *animal,* has more than one hyponym (e.g. *dog*, *cat*, *mouse,* etc.), its hyponyms are linked as incompatibles (co-hyponyms) (cf. Storjohann, 2007). Based on this nature of hyperonym, other Semantists call it incompatibility or co-hyponymy, which exists between members of sets of the same hierarchical level and, therefore, holds between items referring to the same semantic field or domain. They form sets of terms denoting specific (hyponym) kinds of their common superordinate (Storjohann, 2015:161). Within the same construal, hyponymy is regarded as simple class inclusion and unilateral entailment and is "one of the most important structural relations in the vocabulary of a language" (Cruse 2004: 148). Thus, the data in 4 are examples of Kinyarwanda hyponyms:

4   (a) Ibikoko [animals]

      [i] Urukwavu   'rabbit'
      [ii] Ihene   'goat'
      [iii] Intama   'ship'
      [iv] Intare   'lion'
      [v] impyisi   'hyena'
      [vi] Inka   'cow'
      [vii] Imbwa   'dog'
      [viii] Inzangwe   'cat'

(b) Ibiryo [food for eating]

      [i] Ibitoci   'banana'
      [ii] Ibirayi   'potato'
      [iii] Ibigori   'maize'
      [iv] Imyumbati   'cassava'
      [v] Ubutsima   'Ugali'
      [vi] Umuceri   'Rice'

(a) Imyenda [clothes]

      [i] Ikariso   'pant'
      [ii] Impari   'trouser'
      [iii] Izipo   'skirt'
      [iv] Ipantaro   'short'
      [v] Igiteteyi   'dress'

The data in 4 are hyponyms belonging to the same word category. This entails that hyponymy is strictly between words of the same (syntactic) category, but some groups of apparent co-hyponyms seem to be related to a word of some other category. (Cann, 2001:458). A hyponym is sometimes called subordinate, while its superordinate is called hypernym. However, the subordinates are linked as incompatibles (co-hyponyms). Incompatibility (co-hyponymy) exists between members of sets of the same hierarchical level and, therefore, holds between items referring to the same semantic field or domain (Cf. Storjohann, 2015:261); thus, they form sets of terms denoting specific kinds of their common superordinate. The prototype theory establishes principled entailment that accounts for these relations; Cruse (1986) accounts:

5. X is a hyponym of Y if**f** there exists a meaning postulate relating X
    and Y of the form: $\forall x'(x) \rightarrow Y'(x)]$ but none of the form: $\forall x \ [Y'(x) \rightarrow X'(x)]$

6. X is a hyponym of Y if**f** any item which possesses all the prototype features of X is guaranteed to reach the membership of threshold weighted feature account for Y.

From the above principled definition (Cf. 5-6), it can be said that X and Y represent logical constraints corresponding to the meaning of the lexical items of X and Y. This means that the Kinyarwanda lexeme '*Ibikoko*' meaning 'animals' should postulate: 'rabbit, *Ihene* 'goat'; *Intama* 'ship', *Intare* 'lion', *Inka* 'cow', *Imbwa* 'dog' *Inzangwe* 'cat' to mention just but a few. Not that the extension of Y (*Ibikoko*) is included in the extensions of X but not vice versa.

Synonym: Is a lexical relation whose meaning is equivalent to or alternative to another word. This means that the words used are of different phonetic or phonological forms, but they represent the same or sameness semantic scopes. Here, the idea of sameness used does not mean total sameness but just equivalent. Yule (2006:105) posed that two or more words with very closely related meanings are called synonyms. See the data in Table 1 below:

Table 1: Synonyms

Words	Meaning	Synonyms	Related sense
Tebuka	(come) earlier	Vuba	(do) quickly
Ubukwe	Wedding	Ubugeni	Ceremony
Umuryango	Clan	Amaka	Family
Umukungugu	Dust	Umwanda	Dirtiness
Tabara	Save (me)	Fasha	Help
Icara	Sit	Cabugufi	Sit
Intwari	Hero	Imanzi	Hero
Gusoza	Complete	Kwambara	Graduate/finish

Examples in Table 1 exemplify the way semantic lexical senses can be exhibited in different contexts. Tipping from linguistics and semantics metaphorical relations, synonyms seem to be very powerful in freeing discourses by the speakers. That is to say, the word has abstract thought for conceptualization. Within the same coin, Storjohann (2015:253) patterned that meaning identity is an emergent construal marked by concrete forms of linguistic realizations and exemplifying cognitive mechanisms as well as using specific knowledge for particular comparative or inclusive purposes. This proves that synonymy is dynamic and a result of different types of cognitive equivalence that human beings communicate effectively by understanding each other (Cf. Adamska-Sałaciak, 2013). In practice, the Prototype Mode is evidence pertinent to the situation in which the lexemes have related alternatives of meaning. This entails that:

7. X and Y are absolutely synonyms if their meanings are identical.

The data in 7 shows that the meaning of the word X is significant to that of Y, following the fact that it is nearby within the same domain. The theory argues that the lexeme X has its alternative Y, of which the entailment of Y complements X. Cruse (1986) adds that if Y is dead, it is not alive and that one is busy if he or she is occupied. Thus, the restriction in the external world matters here when talking about lexical relations in pragmatic linguistic contexts.

Homonyms: hyponyms are words with the same spelling and pronunciation, but their meanings are different and unrelated (Simon, 2023:26). Words of the same spelling and pronunciation with more than one unrelated meaning are known homonyms. The Kinyarwanda data in Table 2below exemplifies:

Table 2: Homonyms

Kinyarwanda homonyms	The first meaning [1]	The second meaning [2]
Icigo	Cattle	School
Rega	Die	Cut
Umwuka	Spirit	Smoke
Baza	Sell	Wooden
Year	White	Saint
Rama	Live forever	Curse
Intra	Region	Sieve

The data in Table 2 above indicate that the meaning of lexeme [1] is unrelated to the meaning of lexeme [2]. The semantic unrelatedness of this lexeme qualifies them to be homonyms. The structure or form and the articulation of homonymic lexemes are exactly the same, something that makes Yule (2006:107) stipulate that homonyms are words that have separate histories and meanings but have accidentally come to have the same form. This agrees with the Prototype Theory as the interpretations of the words are not the same, although their spellings and pronunciations are the same. This is captured by the logical principle in 8 below:

8. X and Y are incompatibles if the truth of $F^b(X)$ entails the falsity of $F^b(Y)$

The logical principle of the Prototype Theory in 5 denotes that lexeme X is incompatible with lexeme Y if and only if the function (meaning) of the former does not reflect the meaning of the latter. In other words, Kinyarwanda lexeme i*cigo* 'cattle' does not have the same meaning as its counterpart *icigo,* which means 'school'. The same is attested in the English language. For instance, the word *pupil* means a ''student''; the same lexeme can mean part of the ''eye''. This means that the meaning of the former does not entail the meaning of the latter.

Metonym: is one among semantic sense relations in which a single lexeme provides access to another conceptual entity but within the same domain (Kövecses, 2002). Very common examples given in various literatures are the lexeme *tongue,* which stands for speech and the lexeme *hand,* which stands for writing (Ungerer and Schmid1996). Consider the following data from Kinyarwanda language in Table 3 below:

Table 3: Metonym

Metonym	Gloss	Metonymic	Gloss
Ululimi	Tongue	Kuvuga	Speech
Ukuboko	Hand	Kwandika	Writing
Amazi	Water	Kung'wa	Drinking
Izuba	Sun	Murika	Light
Ibiryo	Food	Kurya	Eating
Amaguru	Legs	Kujyenda	Walk
Umutuku	Red	Irange	Color
Umwigisha	Teacher	Kwigisha	Teaching
Umunyeshuli	Pupil	Kwiga	Learning
Imvura	Rain	Umwuzure	Floods
Icizami	Exams	Gupima	Assessment
Igikopo	Cup	Voma	Fetch
Igitabo	Book	Gusoma	Reading

Table 3 presents examples of metonym in the Kinyarwanda language. The lexemes written in green color have their metonymic counterparts written in blue colors. The colors have been used for simplicity.

Partonymy is the term used to describe a part-whole relationship between lexical items (Saeed, 2003:70). In other words; the term is regarded as a paradigmatic sense relation that involves 'part-of' relations or Meronymies. In lexical semantics, Partonymy is also referred to as Meronym. For instance, the toe is a Meronym or/ and Meronym of foot, and the foot is a Meronym of leg, which is in turn a Meronym of body (Cann, 2001:462). In Kinyarwanda, Meronyms are as presented in the table below:

Table 4: Kinyarwanda Partonymy

Part	Gloss	Hole	Gloss
Ubhuso	Face	Umutwe	Head
Icibhabha	Leaf	Umuti	Tree
Iciganza	Palm	Ukuboko	Hand
Icara	Fingure	Ukuboko	Hand
Igipesa	Button	Umwenda	Clothes
Urugi	Door	Urugo	House
Umukungugu	Soil	Umulima	Land
Intoci	Nail	Icara	Fingure
Ibyanditswe	Text	Igitabo	Book
Umustsi	Hairs	Umutwe	Head
Icirabyo	Flour	Umuti	Tree
Umurongo	Sim card	Telephone	Phone
Idirishya	Window	Urugo	House

Table 4 above presents Kinyarwanda patronyms. The lexemes in green have their partonymy written in red. This means that lexemes written in red are wholes, while those written in green are parts of those holes. In other words, the lexemes written in green are parts of those written in red ink. Such relations are viewed in the conceptions of cognitive grammar in such a way that the words in red are conceptual entities or vehicles which provide mental access to other conceptual entities but within the same domain (cf. Kövecses 2002). This sense relation can be explained within the Prototype Theory by using the following principle:

9.   X is a Meronym of Y if F^c (X) entails F^c (Y) and F^d(Y) entails F^d(X)

In 10 above, it is observed that F[c] denotes a sentential function of an appropriate semantic lexeme such that the *Umustsi* 'hairs' are found on *Umutwe* 'head'. In that sense, it can be agreed that *Umustsi* is a Meronym of *Umutwe* 'head'. F[d] denotes a sentential function that provides a reverse entailment; for instance, Urugo 'house' entails Idirishya, which means 'window'. Thus, the whole 'house' entails 'window' and other complements of the house such as roof, doors, and walls, to name but a few.

Homographs: Homographs are words that share the same spelling but have different pronunciations and meanings. Simon (2023) adds that a homograph is another form of sense relations, which refers to a word that has the same spelling but different meanings and pronunciation. A number of such lexemes are found in Kinyarwanda language. Consider the following words in examples shown in 10-11 below:

10. **Cera**
    - [i] /čerə/   Long time
    - [ii] /čɜːrə/   Very earlier

11. **Iciraro**
    - [i] /ičraro/   Bridge
    - [ii] /iːčirər/   Cattle

The data in 10-11 are Kinyarwanda words having the same spelling but different meanings and pronunciations. They are homographs. Homographs are fewer than other forms of sense relations such as polysemy, antonyms, metonyms, Meronyms, homonyms, and hyponyms. This is due to the fact that homographs are grounded in phonological contexts; thus, their existence depends on phonetics and phonological treatments.

5. Conclusion
This subsection shows the general summary of the research study, starting from the purpose of the study, summary of results, interpretation and discussion, study limitations and suggestions for future research. We start with the objective of the study.

5.1 Objective of the study
This paper aimed to explore paradigmatic sense relations in the Kinyarwanda language of Rwandese under the Prototype Theory. The purpose was to describe the number of sense relations the Kinyarwanda language exhibits. This was triggered by the fact that Bantu languages differ in the number, type and form of sense relations.

5.2 Results Summary
The study explored Eight lexical relations in Kinyarwanda, namely polysemy, homonym, homograph, synonym, Meronym, metonym hyponym, and Partonymy, discussed at length, but the discussion did not delve into their variations and extensions of sense relations in detail. Such sense intricacies are antonyms and collocations whereby the former are part of paradigmatic and the latter are syntagmatic sense relations.

5.3 Interpretation and Discussion
The findings of this study indicate how Bantu languages behave in a way that is pertinent to topics in semantics and sense relations specifically. However, the sense and the evidence from psycholinguistics and collocation sensitivity of sense show that syntagmatic relations may be cognitively primary, and those paradigmatic relations may be learned, either explicitly or through human experiences. A note to readers is that Bantu languages exhibit different sense reations that can contribute to the development and even modifications of linguistics theories.

5.4 Study limitations
The study faced problems in accessing homographs as part of lexical relations in the Kinyarwanda language. The phenomenon is raised due to the fact that in speech, homograph is realized, but in writing, it does not matter. This was caused by the prominence and pitch variations, which caused a failure in homograph recognition. This draws the boundary between homograph and other sense relations in the language under discussion.

5.5 Areas for Future Research
The current study on Kinyarwanda sense relations cannot clim to have exhuted all issues on the topic under discussion; other areas, like syntagmatic relations, need investigation to shape and develop linguistic theories on African languages. In other words, syntagmatic relations need further investigation in order to have more explicit knowledge about lexical sense relations in the development of African linguistic theories.

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