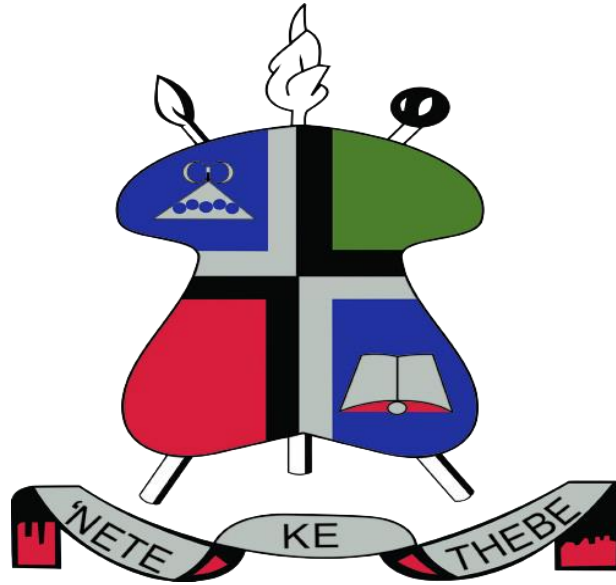


**THE SEMANTIC EFFECTS OF CAUSATIVE VERBAL
EXTENSIONS ON SESOTHO VERBS AND SENTENCES**



BY

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**SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS
FOR THE DEGREE OF MASTER OF ARTS**

IN

THE DEPARTMENT OF AFRICAN LANGUAGES AND LITERATURE

AT

THE NATIONAL UNIVERSITY OF LESOTHO

SUPERVISOR: MRS. 'MASEHLOHO 'MATJOTJO

2023/2024

Declaration

I, **Thabiso Elliot Ratšiu**, declare that **The Semantic Effects of Causative Verbal Extensions on Sesotho Verbs and Sentences** is my own work and all the sources that I have used or cited have been indicated and acknowledged by means of complete references

Signature

Date

Supervisor's Recommendations

Approved and recommended for acceptance as a partial fulfilment of the requirements for the degree of M. A. in African Languages and Literature.

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Acknowledgements

I want to express my gratitude to God for his kindness and protection shown to me during this trying time. I would not be here today if it were not for Him. I sincerely thank my supervisor, Mrs. 'Masehloho 'Matjotjo, for her steadfast support and direction. She was not only my supervisor, but also my parent.

Dr. Hala-hala, who edited my work before it was submitted, has my sincere appreciation as well. Additionally, I want to sincerely thank all of my National University of Lesotho classmates who helped make this effort a success in many ways. God bless each and every one of you.

I also want to express my sincere appreciation to my relatives. It was really helpful in encouraging and praying for me right before I almost lost it. I honestly cannot put into words how much I appreciate all you have done. I pray that the Good Lord will be with you and bond us with a deep love so that we will remain by each other through good times and bad. I adore you all.

My wife, 'M'e 'Maitumeleng Ratšiu, has my sincere gratitude. She never questioned me; instead, she was always there to support, love, and believe in me when I had dreams that I wanted to follow. When there were discrepancies between my work and my studies, she helped me. She would always support me and give me the willpower to go on. Thank you very much, Queen

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List of Abbreviations

AA	-	Algorithm Approaches
ADV	-	Adverb
AGR	-	Agreement
CAUS	-	Causative
CGT	-	Cognitive Grammar Theory
CLT	-	Cognitive Linguistic Theory
GBT	-	Government and Binding Theory
IA	-	Item and Arrangement
IND	-	Indicative
INFL	-	Inflectional
IP	-	Item and Process
ITM	-	Image Theory of Meaning
LFG	-	Lexical Functional Grammar
LIT	-	Literal
LMT	-	Lexical Morphology Theory
MBMT	-	Morpheme-Based Morphology Theory
MDT	-	Morphological Doubling Theory
MP	-	Minimalist Program
MP	-	Mirror Principle
NLP	-	Natural Language Processing
NP	-	Noun Phrase
NUL	-	National University of Lesotho
PRP	-	Preposition
RG	-	Relational Grammar
SELECT	-	Sectorial Evidence of Language Change Theory

- TM - Templatic Morphology
- TNS - Transitive
- WSD - Word Sense Disambiguation

Abstract

This qualitative study employs the Image Theory of Meaning (ITM) to investigate the effects of the causative verbal extensions on Sesotho verbs and sentences. It aims to unveil the strategies that can be used to overcome these effects. The data in the form of sentences that contain causative verbs used for analysis in this study were derived from both the primary sources and the literary selected linguistic Sesotho texts. The study observes that the effects of the causative verbal extensions include ambiguity in Sesotho verbs and sentences, which leads to communication problems such as misinformation and confusion, resultant in communication breakdown between the speaker and hearer. The current study has also unveiled the possible ways in which the focal effects can be avoided for effective communication among the Sesotho speakers. The study concludes that, context consideration and the avoidance of the use of causative morphemes may bring an end to the linguistic effects caused by the use of the causative morphemes on verbs in Sesotho sentences.

Keywords: Verbal Extensions; Causative verbal extensions; Effects, Strategy; Disambiguation.

CHAPTER ONE: INTRODUCTION

This chapter introduces this study, giving background to the study, statement of the problem and the research questions that guide the study. The chapter also consists of the hypotheses, aim and objectives, as well as the significance of the study. In this chapter, review of the related literature and theoretical framework, the methodology for collection and analysis. It further presents the delimitation and organisation of the study.

1.1 Background and Contextualisation of the Study

This research is appraised within the semantic field of study in the Sesotho language. According to Genetti (2018), language is the primary medium used for interaction between people. On this basis, Alsoraihi (2019) defines language as the main method of communication among members within different communities at the global level. Also seen as a means of global understanding, language is used to translate the culture of different societies to reflect their traditions and values. For Lotha (2022), it is a system of conventional spoken, manual (signed), or written symbols by means of which human beings, as members of a social group and participants in culture, express themselves. The study understands that language is a means of communication used by humans, plants or animals to convey ideas and feelings.

The language of focus in this research is Sesotho, which is a member of the Bantu language family mainly spoken by Basotho in Lesotho, and in some parts of Africa (Mokopu-Lebusa, 2020). This language is known as Southern Sotho and is the official language in both Lesotho and the Republic of South

Africa (Nhlapo, 2021). Like other languages, Sesotho has grammar with such components as phonetics, phonology, morphology, syntax and semantics; the latter which is the focus in this study. Agbedo (2015) refers to semantics as the study of meaning. He explains that it is how words and sentences of various grammatical constructions are used and understood by native or fluent speakers of a given language. Hence, Pardede and Saintar (2016) note semantics as the study of meanings, which is concerned with the relation between words, other symbols and objects or concepts to which they refer. Taking the notion further, Abdurrahman (2019) views semantics as the study of the meaning of words, phrases and sentences. It could be understood, in this study, that people communicate to transfer messages through the use of words and sentences, and as they communicate, meanings are perceived with understanding. That is, whatever the speaker wants to communicate to the listener should clearly be understood by the recipient; otherwise, the purpose of communication would be defeated.

Like any other African Bantu languages such as Setswana and Sepedi, Sesotho undergoes various morphological word-formation processes. These include affixation, compounding, clipping and other processes to mention but a few. According to Ratih and Gusdian (2018), the word formation process is a way to construct new words from existing materials. Thus, Nordquist (2020) concurs that a word-formation process refers to a way in which new words are formed, using other words or morphemes. This might be the reason why Zuhri, Suwandi and Fitriati (2022) explain that word formation occurs when the word is changed into a new word, which happens in several ways. It can be concluded that word formation is a method of forming new words from existing words, based on linguistic rules. According to Werigbelegha and

Kwokwo (2019), the morphemes used in forming new words include affixational verbal extensions, which are the main focus of this research, with regard to their semantic implications in various contexts. Jurida (2017) defines an extension as the widening or extending of the meaning of a word. Hence, Kareen and Alwan (2020) acknowledge it as a process in which new words are formed from already-existing words. Grammatically, verbs are the lexical category of words which accommodate the use of extensions.

It has been observed that verbal extensions are found in many African languages, especially the Bantu languages. Blech and Williamson (2015), cited in Werigbelegha and Kwokwo (2019), define verbal extension as a verbal suffix added to the root resulting in a new stem. As Werigbelegha and Kwokwo (*ibid*) concur, a suffix attached to a verb which substantially changes the meaning and valence of the verb. A Sesotho verbal extension is, therefore, a morpheme used in affixation which is a common word-formation process in forming Sesotho derivative verbs. According to Guma (1974), this morpheme is inserted between a verbal radical and a verbal suffix to form a new derivative verb. The following Sesotho verbs exemplify the attachment of a verbal extension between the verbal radical and the verbal suffix:

1. (a) *ja* “eat” - *jesa* “cause to eat”
- (b) *matha* “run” - *mathisa* “cause to run”
- (c) *bona* “see” - *bontša* “cause to see”
- (d) *robala* “sleep” – *robatsa* “cause to sleep”
- (e) *Benya* “glitter” - *bentša* “cause to glitter”

In the above examples, the underlined morphemes /-es-/, /-is-/, /-ts-/ and /-tš-/ are verbal extensions infixes between the verbal radicals and verbal suffixes.

Authors such as Guma (1974) have categorised several verbal extensions in Bantu languages. These verbal extensions are passive, applicative, reciprocal, neuter-passive, intensive, perfective, reversive, extensive and causative verbal extensions: the latter which is the main focus of this study. It is in the Sesotho language which the study discovers the existence of causative verbal extensions and attempts to discover their effects on Sesotho verbal and sentential semantics.

1.2 Statement of the Problem

The researcher has observed that the insertion of causative verbal extensions on Sesotho derivative verbs may lead to a loss of message in day-to-day communication among the speakers of Sesotho. Any such a loss of message could bring confusion and misinformation among those engaged in a conversation because of more than one meaning brought by the use of the verbal extensions under investigation. In this regard, the Sesotho teachers and learners would have difficulty in teaching and learning. The use of the causative verbal extension is likely to challenge learners in taking orders in the classroom, ending up failing examinations. The confusion and misinformation due to the loss of message is also noticeable among the native speakers of Sesotho. This study is intended to shed light on different semantic effects brought about by the use of these causative verbal extensions on verbal and sentential meanings in Sesotho, as a language of focus. Also noticeable was a lack of literature on Sesotho causative verbal extensions regarding its semantic effects on Sesotho verbal and sentential meanings. This implies that the users of this language are deprived of the opportunity to learn such semantic effects, and/or avoid them in their communication.

1.2.1 Aim of the Study

This study aims to identify the Sesotho causative verbal extensions within Sesotho verbs. The study also intends to discuss the semantic effects of such verbal extensions on some verbs in Sesotho and sentences, considering how the lexical and sentential ambiguities resulting from their usage could be solved.

1.2.2 Study Objectives

The main objectives of this study are to:

1. Identify the Sesotho causative verbal extensions and the morphological position in Sesotho verbs;
2. Unveil the semantic effects brought by Sesotho verbal extensions on verbal and sentential semantics, and reveal the syntactic contexts in which these verbal extensions are more problematic;
3. Discuss the strategies that can be used to overcome the effects resulting from the use of these extensions.

1.2.3 Research Questions

To achieve the aim and objectives of this study, the study attempted to address the following research questions:

1. Which are the existent Sesotho causative verbal extensions, and what is their morphological position in Sesotho verbs?

2. What effects do the causative verbal extensions bring to Sesotho verbal sentential meanings, and in which syntactic contexts do causative verbal extensions are more problematic?

3. What strategies can be used to overcome the effects of causative verbal extensions?

1.2.4 Hypotheses

According to Anupama (2018), a hypothesis is a statement of the researcher's expectation or prediction about the relationship among study variables. For Sigh (2020), a hypothesis is a tentative statement about the solution of the problem. He asserts that the hypothesis offers a solution to the problem that is to be verified and based on some rationale. Adding, Drew (2023) views a hypothesis as a testable prediction that seeks to explain a phenomenon or make a statement about the relationship between variables. The current study understands a hypothesis as the researcher's predictions which give answers to the research questions.

In relation to the research questions presented above, the study hypothesises the following:

1. With regard to the existent Sesotho causative verbal extensions and their morphological position, it is predicted that the existent causative extensions are /-is-/, /-es-/, /-tš-/ and /-ts-/, and they are morphologically positioned in between the verbal radical and the verbal suffix.

2. Regarding the effects brought by the Sesotho causative verbal extensions on Sesotho verbs and the syntactic contexts in which they pose more problems, it is predicted that they normally cause confusion and to those engaged in conversation, and both lexical and sentential ambiguity in the meaning may result, as well as bringing both lexical and sentential ambiguity in a context where the objects are animate.

3. Regarding the strategies to use to overcome the effects of these verbal extensions, it is predicted that considering the context of a word or sentence use, it may be more useful in determining its meaning and its innate semantic context. It is also predicted that making use of disambiguation mechanisms, such as word sense disambiguation, and supervised and unsupervised methods plays a vital role in disambiguation. The study also postulates that avoiding the use of causative verbs will also help in overcoming these effects.

1.3 Significance of the Study

This study is projected to assist the linguists in their future research on verbal extensions, particularly the causative verbal extensions in Sesotho. The study is anticipated to benefit language and linguistics academics and teachers in their teaching of semantic concepts by providing them with relevant information. The study would shed light on such effects and the use of verbal extensions and the effects that might surface. It is also hoped to reinforce the linguistic learners in their learning of the verbal extension concepts, which include causative verbal extensions in the Sesotho language. To the curriculum and material developers, this study may be a useful resource in enriching the already existing curriculum materials or the development of the

new ones with the extension verbs. Finally, the study is hoped to provide answers to the researcher's questions on causative verbal extensions.

1.4 Literature Review

This section reviews the literature related to verbal extensions. Considering the chronology of the studies reviewed, this section mainly focuses on Sesotho as one of the Bantu languages.

Matambirofa (2015) analyses the metamorphosis of predicate extensions concerning the morph lexical study of verb extension in Shona. His study employs Sectorial Evidence of Language Change Theory (SELCT). He explores the behaviour of verbal extensions from historical linguistics and empirical points of view. In his study, he finds out that, highly productive extensions such as causatives, applicatives, and passives can team up with a large stock of lexical verbs. Verbal extensions such as causative verbal extensions could be seen as a function with many lexical verbs in producing new verbs. The current study focuses on the semantic effects of causative verbal extensions, while his study deals with the historical change of the above-mentioned verbal extensions. However, Matambirofa's (2015) study influences the researcher's desire to investigate the semantic effects of causative verbal extensions.

Nkola-Wakumelo and Mohoanyane (2016) discussed the suffix ordering rules in Sesotho, focusing on the reciprocal, applicative and causative verbal extensions. With the use of Lexical Morphology Theory (LMT), the authors examined the combination of reciprocal with causative and applicative verbal extensions and found that the causative verbal extension should be attached

close to the verbal radical, followed by the applicative, then reciprocal verbal extension. In the light of Nkola-Wakumelo and Mohoanyane's (*ibid*) findings, it could be understood that whenever the three verbal extensions in question co-occur, the order of occurrence should always maintain a causative-applicative-reciprocal sequence, with the changing sequence thus distorting the meaning of the sentence. Their study focuses on the ordering and co-occurrence of the three verbal extensions in question, whereas the current study focuses only on the semantic effects of causative verbal extensions on Sesotho verbs. Nevertheless, Nkola-Wakumelo and Mohoanyane's (2015) study is important for the current study as it sheds some light on the nature and function of the causative verbal extensions, being investigated in this study.

Meklit (2016) analyses verbal extensions in Malawian Tonga, under the microscopic lens of two theories, namely: Mirror Principle (MP) and Templatic Morphology (TM). The author examined the extent to which the two theories regulate the order of Tonga verbal morphemes and discovered that in Tonga, causative and applicative verbal extensions precede other verbal extensions when they co-occur. While Meklit's (*ibid*) study which used MP and TM, study is relevant to the current study, overlooked Functional Theory (FM), something which is crucial for this study. Nonetheless, Meklit's (2016) analysed verbal extensions, which will inform the analysis of the semantic effects of such extensions on Sesotho verbs.

Chipanda and Pembe (2018) studied the complexity of Swahili pairwise of verbal extensions, thereby describing the morphological algorithm of Swahili pairing of verbal extensions. Employing the Cognitive Grammar Theory

(CGT) and Algorithm approaches (AA), their study revealed that most of Swahili morphs ordering have been well documented morphologically, though semantically not well analysed. In this study, the meaning should be considered when dealing with verbal extensions as each morpheme has its own semantics. Chipanda and Pembe's (*ibid*) study deals with the complexity of the pairing of all verbal extensions, whereas the present study's focus is only on the effects of the causative verbal extension on Sesotho verbal and sentential semantics. Their study is deemed relevant to the current study on the complexity of ordering of verbal extensions, thereby informing research on analysing the effects of the verbal extension under discussion.

Mkabile (2019) discusses the morphological behaviour of verbal extensions in isiXhosa within the frameworks of Government and Binding Theory (GBT), Lexical Functional Grammar (LFG) and Relational Grammar (RG). She aims to explore the co-occurrence and ordering restrictions of such verbal extensions in isiXhosa. The findings of her study reveal that a change in occurrence order between the causative and applicative verbal extensions results in a change of meaning. It could be argued that any form of change in meaning deriving from a certain pattern of co-occurrence of these verbal extensions is likely to cause communication breakdown. With Mkabile's (*ibid*) study focusing on the co-occurrence and ordering restrictions between the verbal extensions, the current study only deals with the semantic effects of causative verbal extensions on both Sesotho verbs and sentences. Nevertheless, from a different perspective, Mkabile's (2019) study has shed light on the current study, with the latter also examining verbal extensions.

Employing Morphological Doubling Theory (MDT), Lodhi (2019) examined the existence of verbal extensions in Bantu languages, comparing Swahili and Nyamwezi languages. He noted verbal extensions in Swahili as better documented, analysed and described than in Nyamwezi. This suggests that more work still needs to be done regarding extensions in Nyamwezi. The dissimilarity between the current study and Lodhi's (*ibid*) study is that of the comparative perspective used by Lodhi (2019), while the current study's perspective is on the effects of causative verbal extensions on Sesotho verbs and sentences. This study considered Lodhi's (*ibid*) for providing an insight into the effects of different verbal extensions in Bantu languages, hence, helping the current study towards achieving its aim and objectives.

Werigbelegha and Kwokwo (2019) discussed verbal extensions as a morphological productivity strategy towards meaning creation in Bantu languages on descriptive account of morphological processes in English and Izon. Their study discovered verbal extensions as used in Izon, a very creative and productive word-formation and meaning-creation strategy, with ability to use them functionally, as part of linguistic and communicative competence of the native speakers of Izon language. Verbal extensions could help to form new words, thus having new meanings. Werigbelegha and Kwokwo's (*ibid*) study focuses on the use of verbal extensions in Izon regarding the formation of new words and creation of meaning, whereas the current study analyses the effects of the Sesotho verbal extensions on the verbal and sentential semantics. Their study is very important for the current study in investigating the creation of words and their meaning.

Larnyo and Glorer-Meni's (2020) study on the causative verbs and event segmentation in Ewe, using Cognitive Linguistics Theory (CLT) described the features of Ewe causative verbs and how they encode causative events. Their findings reveal that causation is at the heart of the majority of semantic analysis of verbs relevant to argument realisation involving the causal structure of events these verbs encode. The current study understands that for effective communication, verbs are the integral carriers of meaning, hence the affixation of causative verbal extensions needs to be carefully taken into consideration. With their study examining features of Ewe causative verbs as well as informing this study, the current study investigated the effects of causative verbal extensions on Sesotho verbs. Nevertheless, their study informs the current research work in examining the semantic effects of the causative verbal extensions on Sesotho verbs and sentences.

Analysing Gusii verbal extensions, Luka (2021) uses the Minimalist Program (MP) to describe the realisation and occurrence of applicative, reversive and passive verbal extensions in Gusii. Her findings reveal that each verbal extension is differently realised by an affix to mark a specific verbal extension, and they come before the final vowel, following the root verb-affix-Fv morphological structure. Her study finds out that applicative verbal extension is a productive extension because it is hosted by both transitive and intransitive verbs. The current study understands that verbal extensions are different as they are recognised by different morphemes, which also make them convey different meanings in their usage. Luka's (*ibid*) study analyses applicative, reversive and passive verbal extensions, while this study solely examines the causative verbal extensions and their effects on Sesotho verbal and sentential semantics. However, her study informs the current on the

nature, characteristics, realisation of verbal extensions and their position within the derived verbs.

The above linguists have analyzed the occurrence of verbal extensions which include causative verbal extensions in different languages. However, they have missed the semantic effects of causative verbal extensions in Sesotho verbs. This dearth calls for the researcher's analysis on their effects on Sesotho verbal and sentential semantics.

1.5 Methodology

This study believes that methodology outlines how research is going to be undertaken. This understanding is strengthened by Tabuena, Hilario and Buenaflor (2021) who posit that methodology addresses an unusual technique as well as a description of whether a researcher has introduced a new method or substantially modified the method that already exists. The current study also understands methodology as a way in which the research is intended to be carried out. According to Chris (2021), the methodology section allows the reader to check whether the researcher's approach is accurate and dependable, which can increase the reader's trust in the research findings. For Bahati (2021), research methodology shows the path through which researchers formulate their problem and objectives and present their results from the data obtained during the study period. Methodology comprises the research paradigm, research design, population, sample and sampling techniques, methods of data collection and data analysis.

1.5.1 Research Paradigm

Research paradigm is an approach, a model, or a framework from which to conduct research (Rehman & Alharthi, 2016). Adekunle (2018) emphasises that it helps in determining what methods, designs and means of analysis are required in research. The current study understands that research paradigm helps the researcher to form a research philosophy, which in turn informs his/her research methodology. According to Rehman and Alharthi (*ibid*), there are four types of research paradigms, namely positivist research paradigm, critical research paradigm, constructivist research paradigm and interpretivist research paradigm. From Rehman and Alharthi's (2016) perspective, positivists rely on their observations through their senses to gain knowledge of their surroundings, while critical research paradigm focuses on enacting social change through scientific investigation. The constructivist research paradigm asserts that reality is a construct of people's minds; therefore, reality is subjective (Adekunle,2018). Due to the interpretive nature of the current study, which requires qualitative methods and techniques positivism is found not relevant for employment in this study.

On the contrary, Yong, Husin and Kamarudin (2021) assert that an interpretive paradigm underpins aims at observing and understanding social phenomena in their context. Based on the interpretive methodology, this paradigm is found relevant to this study and allows the researcher to effectively interpret the gathered data, in an attempt to learn and better understand the new phenomenon, as noted by Rehman and Alharthi (2016). They also clarify that interpretivists use qualitative methods and techniques to

conduct their research. Based on the qualitative principles, this paradigm is relevant to the current study.

1.5.2 Research Design

Research design is defined by Thacker (2020) as the arrangement of conditions for the collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in the procedure. Thakur (2021) embraces Thacker (*ibid*), seeing a research design as referring to the overall strategy chosen to integrate the different components of the study coherently and logically. A research design constitutes the blueprint for the collection, measurement and analysis of data. This study understands that a research design is a plan of how data is collected and analysed to address the research problem. Chris (2021) explains that there are three main categories of research approaches, namely qualitative, quantitative and mixed-methods approaches.

1.5.2.1 Quantitative Approach

According to Leavy (2022), the quantitative research approach is characterised by deductive approaches to the research process aimed at proving, disapproving or lending credence to the existing theories. Leavy (*ibid*) continues to highlight that the quantitative research approach involves measuring variables and testing relations between variables to reveal patterns, correlations, or causal relationships. In the quantitative research approach, the researcher may apply linear methods of data collection and analysis that result in statistical data (Chris 2021). The present study does not employ a quantitative research approach which deals with numerical data, because the

data for the current study is non-numerical. Therefore, it employs a qualitative research approach.

1.5.2.2 Qualitative Approach

In contrast to the quantitative research approach, Wester, Morris, Trustey, Cory and Grossman (2021) explain that the qualitative research approach is helpful in gaining more depth of understanding. Hence, Leavy (2022) believes that researchers use qualitative research methods to explore, investigate and learn about a social phenomenon. He asserts that qualitative research methods are employed to unpack the meanings ascribed to activities, situations and events or to build an in-depth understanding of some dimensions of social life. The instruments or qualitative research include, among other tools, interviews and observations (Leavy (*ibid*)). The current study employs a qualitative research approach, focusing on words, sentences and meanings. The choice of this approach is triggered by the fact that the current study investigates the semantic effects of causative verbal extensions, that is words in Sesotho verbs and sentences.

1.5.3 Population

According to Thacker (2020), a population is a complete set of people with specified characteristics. It might be the reason Shukla (2020) defines it as a set or group of all the units on which the findings of the research are to be applied. Levitt (2021) agrees with Shukla (*ibid*) and Thacker (*ibid*) by describing population as the complete set group of individuals from which a statistical sample is drawn for a study. It could be understood, in this study that, population is a group of entities that can be used in carrying out a study. Learners and teachers from Mohloli English Medium High School, at Ha-

Tsolo, Maseru, lecturers from the National University of Lesotho, and ordinary Sesotho native speakers from Ha-Tsolo, Maseru, are used as the population in the present study. This is because they are believed to be familiar with the verbal extensions, with the school being very close to the researcher's residence. Therefore, it is easy for him to reach the target population, in time, with less costs.

1.5.4 Sample and Sampling Techniques

This section presents the sample and the sampling techniques used in dealing with data for the current research. It also provides reasons for choosing such sampling techniques.

1.5.4.1 Sample

Also significant for this study has been the sample. For Kabir (2016), a sample is a part of the population that represents the characteristics of the population. Bhandari (2022) agrees with Kabir (*ibid*) that, a sample is a specific group that one will collect data from. She also explains that the size of the sample is always less than the total size of the population. Hence, Nuzha, Boyd, and Cena (2022) acknowledge Kabir (2016) and Bhandari (2022) by defining a sample as a smaller group from the chosen population that can safely represent the total population for the purposes of the study. This study comprehends that a sample is a small group of items that represents a larger group from which data can be drawn. Therefore, thirty (30) Basotho will be selected to obtain raw data about the semantic effects of causative verbal extensions on Sesotho verbs and sentences. These include ten (10) Grade 10-11 students; five (5) Sesotho teachers from Mohloli English

Medium School; five (5) linguistics lecturers from the National University of Lesotho (NUL); and ten (10) ordinary Basotho from Ha-Tsolo, Maseru, where the researcher resides. These groups of Basotho were chosen as sample for the current study because the researcher believes they represent different groups of Basotho who may have different points of view about the semantic effects of causative verbal extensions on Sesotho verbs and sentences. Additionally, the researcher collected secondary data from selected Sesotho books, which are: *Masoabi: Ngoan'a Mosotho'a Kajeno* by Ntsane (2019), *Sephiri ke Moloji* by Nkandla (2019), *Mathe-maloli* by Matia and Mohlomi (2019) and *Limomonane* by Mohlomi *et al.* (2022). These books were selected because they are believed to have Sesotho sentences that contain derived Sesotho verbs, into which the causative verbal extensions have been infixes.

1.5.4.2 Sampling and Sampling Techniques

According to Kabir (2016) and Nuzha *et al.* (2022), sampling is the process of obtaining information about an entire population by examining only a part of it. There are two basic approaches to sampling, which are probability (random) sampling and non-probability (non-random) sampling. Kabir (*ibid*) explains that in probability sampling, a sample is taken in such a manner that every unit of the population has an equal chance of being selected, and that ensures that the sample would truly represent the overall population.

In contrast to probability sampling, non-probability sampling is any sampling method where some elements of the population have no chance of selection (Nuzha *et al.*, 2022). In strengthening this idea, Kabir (2016) highlights that non-probability sampling is a non-random and subjective method of sampling, whereby the selection of the population elements comprising the sample,

depends on the personal judgement or the discretion of the sampler. The present study understands that, in non-probability sampling, the population is selected by the sampler entirely on their choice. Kabir (*ibid*) further shows that non-probability sampling involves: grab sampling, quota sampling, snowball sampling and purposive sampling; the latter which the current study employs.

Kabir (2016) explains that in purposive sampling, the sample is selected with a definite purpose, and the choice of the sampling units depends entirely on the judgement of the researcher. This is the reason why the present study employs purposive sampling, as it fits into the qualitative approach, employed in this study. The data were chosen based on the judgement that the elements chosen would have the expected qualities that represent the whole population about the semantic effects of causative verbal extensions in Sesotho verbs and Sentences.

1.5.5 Data Collection

Like any other empirical studies, this study had to do data collection. By data collection is meant the series of logical steps one undertakes to gather, measure and analyse accurate data from relevant sources to find answers to a research problem, answer relevant questions and evaluate outcomes, (Kabir, 2018). Kumar (2020) states that data can be classified into two groups namely, primary and secondary data. He defines primary data as the first-hand data collected by researchers from a source according to their requirements. For example, primary data are collected from people through questionnaires or interviews as techniques involved in sampling (Kabir, 2016). The author also explains secondary data as second-hand data collected by other parties

and that has already undergone statistical analysis, which is found in books, journals and literary works.

The present study employs both primary and secondary methods of data collection. The researcher collected Sesotho sentences from the selected Sesotho books and literary works, in which causative derivative verbs have been used. Then the sample were assigned duties to provide information about the semantic effects of causative verbal extensions on Sesotho verbs. The students from Mohloli English Medium School, in the Maseru district were given sentences from which to identify the verbal extensions. From the same school, the researcher asked teachers to mention the types of verbal extensions identified by the learners and explain what they understand from those sentences. They were also asked to explain the problems encountered in the classroom while teaching causative verbal extensions. The ordinary Sesotho native speakers were also given the same sentences, for them to use their intuitive linguistic judgement about the meaning of the given sentences.

The researcher collected the responses and recorded them as data to be used for discussion and analysis in the later stages of this study, to uncover the semantic effects of the usage of causative verbal extensions on Sesotho verbs and sentences. This will be done through the application of the Image Theory of Meaning.

1.5.6 Data Analysis

Analysis of data is defined by Singh (2015) as a number of closely related operations that are performed to summarise the collected data. For him, this data was organised in such a manner as to yield answers to the research

questions or suggest hypotheses or questions if no such questions or hypothesis had initiated the study. Taherdoost (2020) defines data analysis as a process of converting the gathered data into meaningful information. The present study understands data analysis as an interpretation of collected data into comprehensible information.

Braun and Clarke (2017) offer several types of data analysis in qualitative research. Examples are discourse, grounded theory, narrative, content and thematic analysis, the latter which this study employed. Braun and Clarke (*ibid*) also show that thematic analysis is effective for describing data that involves one's interpretation to select codes and construct themes. In this light, the data were analysed and interpreted thematically. The sentences of similar responses and forms will be categorised and coded into themes. These include morphological status of causative verbal extension, and semantic effects that may surface because of the use of such causative verbal extensions on Sesotho verbs and sentences, as well as the mechanisms for resolving the effects of the use of causative verbal extensions.

1.5.7 Ethical Considerations

In every study that involves human subjects, the ethical issues should always be considered and observed, as has been the case in this study. The current study understands ethical considerations as the principles and guidelines that researchers must follow to ensure that their studies are conducted ethically and responsibly. This means the balance between attaining objective knowledge and the proper treatment and protection of the rights of the people involved in the research process must be maintained. As Cacciattolo (2015) explains, the researcher should always ensure that participants are safe from

harm and are protected from unnecessary stress. Hence, Mirza, Bellalem, and Mirza (2023) stipulate that whenever research on people is conducted, the well-being of research participants must be a top priority. Therefore, the researcher used the questionnaire cleared as bearing no physical or emotional harm to the respondents. Also, the language used was not complex and could be well understood by the participants, as it contained simple sentences rather than the complex ones.

For this study, level of education, age and gender restrictions were not made as they have no effect on the effects of the causative verbal extensions. However, the researcher opted to involve 15-38-olds from high school students (Grade 10-11), teachers and native Sesotho speakers who would understand the purpose of the questionnaire. As noted earlier, these participants are believed to be familiar with the causative verbal extensions. This selection was made for having them apply their ability of understanding when dealing with the task presented to them.

Since people are considered to express themselves better in their own language, the researcher used Sesotho, when administering the questions. This facilitated mutual communication and understanding between the researcher and the respondents, resulting in accurate grammatical judgements. The participants were informed that participating in and withdrawing from the study was voluntary and that their responses were only besought for research purposes not to judge their knowledge. They were also given consent forms to fill in, to indicate that they agree to participate. Although they were assured that they could withdraw any time they feel they do not want to participate anymore, they were warned not to withdraw after submitting their answers.

For the purpose of confidentiality, they were assured that their names will not be disclosed, and that the information they provide will only and strictly be used for the purpose of this study.

1.6 Theoretical Framework

This section discusses the semantic and syntactic theories which underpin the current study. It also explains how these theories will help the researcher to analyse data throughout the research on the semantic effects of causative verbal extension on Sesotho verbs. According to Lederman and Lederman (2015), a theoretical framework is a structure that holds or supports a theory of a research study. Kivunja (2018) concurs viewing a theory as the structure that summarises concepts and theories developed from previously tested knowledge. In this way, a theory helps researchers to have a basis for their data analysis and interpretation of the meaning contained in their research data. Further, Nhan (2020) explains a theoretical framework as serving as the structure and support for the rationale of the research, problem statement, purpose and research questions. It follows that a theoretical framework is an organisation of concepts projected to explain an occurrence.

1.6.1 Theory

Thomas (2017) defines a theory as a set of related generalisations that indicate new observations, which can be empirically tested for the purpose of explaining or predicting. He further describes it as the systematic organisation of knowledge, which can be applied for problem-solving. Kivunja (2018) acknowledges it as a set of interrelated concepts, definitions, and propositions that presents a systematic view of a phenomena by specifying relations among variables, with the purpose of explaining and predicting the phenomena.

Hence, Hassan (2023) embraces a theory as a set of ideas or principles used to describe a particular phenomenon or set of phenomena. Here, a theory could be deemed to provide an explanation for observed occurrences in a particular field of study. The current study will employ two main theories: Image Theory of Meaning (ITM) and Morpheme-Based Morphology Theory (MBMT) for data analysis.

1.6.1.1 Image Theory of Meaning (ITM)

The ITM, known as the Picture Theory of Meaning (PTM), is relevant to this study. Coined by Wittgenstein (1951), this theory is considered a correspondence theory of truth, and assigns semantic contents to expressions of language (Matjotjo, 2021). As Al Amery and Dhayef (2016) explain, this theory was proposed as a solution to the problems of explaining the nature of word meaning, which has an equally long tradition. They further saw it as explaining the meaning of a word in terms of the image in the speaker's or hearer's brain. In ITM, any word which relates to more than one image is predicted to be ambiguous (Al Amery & Dhayef (*ibid*). That is, one may have more than one image for a single expression. The present study finds this theory pertinently relevant to account for the meaning confusion, which is ambiguity of the Sesotho verbs and sentences, resulting from the use of a causative verbal extension. This theory falls short of the qualities necessary for the analysis of the existent causative verbal extensions and their morphological position in Sesotho verbs. Hence, it is complemented by the Morpheme-Based Morphology Theory (MBMT), to analyse the sentences with such extensions.

1.6.1.2 Morpheme-Based Morphology Theory (MBMT)

The present study also employs Morpheme-Based Morphology (MBM), which explains word-building processes that include affixation, which involves the affixation of verbal extensions (Bonet, 2008). According to Bonet (*ibid*), this theory was proposed by Aronoff in 1976 and was later developed by Booij (1977), then modified by Scalise in 1984. For Bonet (2008), the MBM involves Item and Arrangement (IA) and Item and Process (IP) approaches. Hockett (1954) coined IP in 1954, which was advocated by Anderson (1992) and Aronoff (1994). Bonet (*ibid*) explains that, in the IP model, word-formation rules have to apply sequentially at the output of syntax, as words are just bundles of unordered features attached to a root. This implies that certain morphological rules are applied to the formation of words.

Bonet (2008) distinguishes between IA and IP approaches, stating that IP builds words through rules and processes, while in the IA approach, words are built up of linear arrangements of morphemes, which are base units. In this study, new words are considered to be formed by applying a word formation rule to a single already existing word to which other items, morphemes, are affixed to form new words. This is the case with verbal extensions which, as morphemes, act as items added to the verbal radical to form a new verb. As a result, this theory is applicable to this study which also analyses the affixation of causative verbal extensions onto Sesotho verbs.

1.7 Delimitation of the Study

This study is only limited to Sesotho causative verbal extensions, to unveil their effects on Sesotho verbal and sentential semantics. In addition, the study

explores the ways in which the negative effects of the use of causative verbal extensions can be solved. This study does not engage the analysis of other verbal extensions as they do not pose any linguistic problems. Consequently, such extensions are not of interest in the current study, which is the effects of Sesotho verbal extension on verbal and sentential semantics.

1.8 Organisation of the Study

The study is organised into five chapters. The first chapter introduces, and contextualises the study> the chapter also presents the statement of the problem, aim, objectives and the research questions and hypotheses that guide the study. The chapter further presents the significance and highlights the literature related to the content of this study> also included is the theoretical framework and the methodology for data collection and analysis. It further presents the delimitation and organisation of the study. The Chapter Two discusses the morphological position of the causative verbal extensions within derived Sesotho verbs. Chapter Three discusses the effects of Sesotho causative verbal extensions on verbal and sentential semantics and the contexts in which they are more problematic. In Chapter Four, the strategies that can be used to overcome the effects of the causative verbal extensions are presented. Chapter Five, serves as the conclusion, giving the findings from the study discussions, as well as the recommendations by the researcher.

Conclusion

This chapter aimed at introducing and contextualising the research problem of the study, stating its aim, objectives and the research questions guiding the study, the hypotheses as well as the significance of the study. It has reviewed literature related to this study, methodology for data collection, and the

theoretical framework for the analysis of data. Also highlighted has been the delimitation and organisation of the study. The next chapter presents the existent Sesotho causative verbal extensions and their morphological position in Sesotho-derived verbs.

CHAPTER TWO: THE MORPHOLOGICAL POSITION OF THE SESOTHO CAUSATIVE VERBAL EXTENSIONS

2.0 Introduction

As described in the previous chapter, a verbal extension is a morpheme used in affixation to form new words (Kareem & Alwan, 2020). This chapter discusses the existing Sesotho causative verbal extensions. It aims to unveil the morphological positions of these extensions within the Sesotho verbs.

2.1 Verbs

It was deemed necessary first to describe the concept of “verb” for the purpose of this study. According to Nordquist (2020), a verb is a central element and has a very decisive role in every language. He further shows that a verb can be identified morphologically and also based on the number of Noun Phrase (NP) arguments it takes. Nordquist (*ibid*) follows Fiktorius (2019) who analysed verbs based on the number of their NP arguments, and classified them into both transitive and intransitive. As such, a verb is a very important element of a sentence and carries the message contained by such sentence. Taken as either requiring an object or not, hence transitive or intransitive, the verb can express a complete idea in the sentence.

2.1.1 Transitive Verbs

Transitive verbs are verbs which express actions and are followed by objects (Fiktorius, *ibid*). Agreeing with Fiktorius (2019), Gurning and Situngkir (2023) describe transitive verbs as verbs that take an object. In Ryan’s (2023) view, such verbs require a direct object, implying that transitive verbs require the receiver of the action in a sentence. The following Sesotho transitive verbs serve to illustrate:

1. (a) *Lineo o rekile koloji.*
 1-Lineo 1-AGR buy-Tns 9-car
 Lit-Lineo is buy car
 “Lineo has bought a car”

(b) *Neo o phehile nama.*
 1-Neo 1-AGR cook-Tns 9-meat.
 Lit-Neo is cook meat.
 “Neo has cooked meat”.

In 1(a) above, the NP *Lineo* is a subject of the verb *-rekile* “has bought”, while the NP *koloji* “car” is an object. The verb in question is transitive, and requires the object *koloji* “car” for the sentence to make a complete sense. Likewise, the word *-phehile* “cooked” in 1(b), is a transitive verb, as it also requires the presence of the object NP *nama* “meat” for the sentence to be complete. All these concur with Fiktorius (2019), Gurning and Situngkir (2023), and Ryan (2023) when they assert that transitive verbs need to be complemented with direct objects.

2.1.2 Intransitive Verbs

Intransitive verbs, on the contrary, are defined as verbs that do not take a direct object (Fiktorius, 2019). This definition follows from Butterfield (2015), who explains that an intransitive verb is a verb that does not need a direct object for a sentence to make sense. Hence, Azab and Hagen (2019) acknowledge it as a verb that does not require an object to complete its meaning. That is, there is no word or phrase in a sentence that tells who or what receives the action. See the following examples:

2. (a) *Ke a bina.*
 1-AGR clitic sing-IND
 Lit-Am sing
 “I sing”.

(b) *Ba a kula.*
 2-AGR clitic sick- IND
 Lit-Are sick.
 “They are sick”

In 2 (a) above, the verb *-bina* “sing” is intransitive, as it does not subcategorise for an object NP for the sentence to express a complete thought or idea. In the same manner, in sentence 2 (b), the verb *-kula* “sick” is intransitive, thereby requiring no object NP for the sentence to express a complete meaning. For Nordquist (2020), intransitive verbs are the verbs of incomplete predication.

2.2 The Morphology of Sesotho Verbs

Morphology is defined by Schmid (2015) as the study of the composition of words. Corroborating, Schmid, Nordquist (2019) sees morphology as the branch of linguistics that studies word structure, with regard to morphemes. Nisa (2020) embraces the concept to mean a study of the internal structure and formation of words. The researcher understands that morphology is the study of the forms of words. Based on its form or morphology, a Sesotho basic verb is built up of a verbal radical and verbal suffix (Guma, 1974). Guma (*ibid*) continues to define a verbal radical as the central morpheme which remains after all prefixal, infixal and suffixal morphemes have been

removed from any verbal predicate. On the contrary, a verbal suffix is defined by Siame and Banda (2024) as an element of formation that is added to the end of a verbal root or a radical.

Guma (1974) further shows that verbal radicals are divisible into three main types. These include simplex radicals, which do not incorporate any extensions; imported radicals, which are derived from foreign languages; and derivative radicals, which are extended through the process of affixation using suffixes called extensions. Guma (*ibid*) classifies such verbal extensions into *passive*, *neuter-passive*, *applied*, *intensive*, *perfective*, *reciprocal*, *extensive*, *reversive*, and *causative* verbal extensions, the latter of which is the main focus of this study. The first objective sought to identify the Sesotho causative verbal extensions and their morphological position in Sesotho verbs. According to the respondents, the existent causative verbal extensions are: /-is-/, /-es-/, /-ts-/ and /-tš-/, all referring to “cause to”. The morphology of these causative verbal extensions is discussed individually in the sections to follow.

2.2.1: The Morphology of Sesotho Causative Verbal Extension /-is-/ “causeto”

As previously presented in this chapter, the morpheme /-is-/ “cause to” was given by the respondents as one of the causative verbal extensions, as demonstrated in Table 1 below, and as extracted from both Guma (1974) and Lekhotla la Sesotho (1981):

**Table 1: The Morphology of Sesotho Causative Verbal Extension /-is-/
“cause to”**

Verbal Radical	Causative Verbal Extension /-is-/ “cause to”	Verbal Suffix	Derived Verb	Translation
a) <i>-ngol-</i>	<i>-is-</i>	<i>-a</i>	<i>-ngolisa</i>	cause to write, register, help to write
b) <i>-hlatso-</i>	<i>-is-</i>	<i>-a</i>	<i>-hlatsoisa</i>	cause to wash, help to wash
c) <i>-math-</i>	<i>-is-</i>	<i>-a</i>	<i>-mathisa</i>	cause to run, help to run

This table elucidates the insertion of the causative verbal extension /-is-/
“cause to” in Sesotho verbs, as gathered from the Sesotho learners. Notably, in the examples in Table 1 above, the Sesotho causative verbal extension /-is-/
“cause to”, was morphologically inserted by those learners, in between the verbal radicals /-ngol-/, /-hlatso-/, and /-math-/ and the verbal suffix /-a/, to derive the new verbs which are *-ngolisa* “cause to write”, *-hlatsoisa* “help to wash” and *-mathisa* “cause to run”. The researcher observes that in all the examples in Table 1 above, the derivative verbs have been formed through the application of a word-formation rule of affixation, which is a principle of the IP, in which the word items (morphemes) are processed through a word formation called affixation, to form new words.

**2.2.2: The Morphology of Sesotho Causative Verbal Extension /-es-/
“cause to”**

As noted from the collected data, one of the causative verbal extensions is /-es-/
“cause to”, whose attachment is demonstrated in Table 2 below:

**Table 2: The Morphology of Sesotho Causative Verbal Extension /-es-/
“cause to”**

Verbal Radical	Causative Verbal Extension /-es-/ “cause to”	Verbal Suffix	Derived Verb	Translation
a) <i>-j-</i>	<i>-es-</i>	<i>-a</i>	<i>-j<u>e</u>sa</i>	cause to eat, help to eat
b) <i>-no-</i>	<i>-es-</i>	<i>-a</i>	<i>-no<u>e</u>sa</i>	cause to drink, help to drink
c) <i>-hlo-</i>	<i>-es-</i>	<i>-a</i>	<i>-hlo<u>e</u>sa</i>	cause to climb, help to climb

This table contains the verbs into which the causative verbal extension /-es-/
“cause to” is affixed in column two (2), to form the derived verbs appearing
in column four (4) of this table. The affixation of these verbal extensions by
the learners follows from Machobane (2010), who stipulates that the verbal
extensions are positioned between verbal radicals and verbal suffixes.
Examples (a), (b) and (c) in Table 2 above, illustrate that the causative verbal
extension /-es-/
“cause to” is positioned between the verbal radicals /-j-/, /-no-/
and /-hlo-/
and the verbal suffix /-a/, to form the new verbs *-jesa* “cause to

eat”, *-noesa* “help to drink” and *-hloesa* “cause to climb”. In the affixation word formation process of the aforementioned derivative verbs, the same word-formation rule, which is a principle of the IP, has been applied. This finding is evidenced by the fact that the said causative verbal extension */-es-/* “cause to”, has been infixated to other morphemes in which the roots, causative extensions and an affix are treated as items which are combined through a process of affixation, complying with the Item and Process (IP).

2.2.3: The Morphology of Sesotho Causative Verbal Extension */-ts-/* “cause to”

As earlier mentioned, one of the causative verbal extensions is */-ts-/* “cause to” which can be infixated into Sesotho verbs, as illustrated in Table 3, below:

Table 3: The Morphology of Sesotho Causative Verbal Extension */-ts-/* “cause to”

Verbal Radical	Causative Verbal Extension <i>/-ts-/</i>	Verbal Suffix	Derived Verb	Translation
a) <i>-hopol-</i>	<i>-ts-</i>	<i>-a</i>	<i>-hopo<u>ts</u>a</i>	make to remember, help to remember
b) <i>-robal-</i>	<i>-ts-</i>	<i>-a</i>	<i>-roba<u>ts</u>a</i>	cause to sleep, lay to sleep

The above table shows the morphological affixation of the causative verbal extension /-ts-/ “cause to” in column two (2) as per the participants, to form the derived verbs appearing in column four of the table. With the Item and Process (IP) approach, words are built through a process of applying word-formation rules to combine the morphemes regarded as items. This is evident in Table 3 above, wherein the causative verbal extension /-ts-/ “cause to”, as an inflectional morphemic item, is infixes between the verbal radicals /-hopol-/ and /-robal-/ and the verbal suffix /-a/, to form the new verbs -hopotsa “cause to remember” and -robatsa “cause to sleep”, thus complying with the IP model in MMBT.

2.2.4: The Morphology of Sesotho Causative Verbal Extension /-tš-/ “cause to”

As earlier mentioned in this chapter, the morpheme /-tš-/ is one of the Sesotho causative verbal extensions, whose affixation is illustrated in Table 4 below:

Table 4: The Morphology of Sesotho Causative Verbal Extension /-tš-/ “cause to”

Verbal Radical	Causative Verbal Extension /-tš-/	Verbal Suffix	Derived Verb	Translation
a) <i>-beny-</i>	<i>-tš-</i>	<i>-a</i>	<i>-bentša</i>	cause to glitter
b) <i>-bon-</i>	<i>-tš-</i>	<i>-a</i>	<i>-bontša</i>	cause to see
c) <i>-bin-</i>	<i>-tš-</i>	<i>-a</i>	<i>-bintša</i>	cause to sing

As shown above, Table 4 also illustrates the morphological positioning of the Sesotho causative verbal extension /-tš-/ “cause to” in verbs, as gathered from the participants. The study observes /-tš-/ as morphologically infixated between the verbal radicals /-beny-/ , /-bon-/ and /-bin-/ and the verbal suffix /-a/, to form the new verbs -*bentša* “cause to glitter”, -*bontša* “cause to see” and -*bintša* ‘cause to sing’. Such verbs are formed through the affixation of a causative verbal extension /-tš-/ between the verbal radical and the verbal suffix /-a/. Cohering with the IP model of the MBM, the causative verbal extension /-tš-/ “cause to”, is infixated through the affixation process between the verbal radicals and the verbal suffix /-a/, to form the above-mentioned verbs.

Observably, all the causative verbal extension morphemes /-is-/ , /-es-/ , /-ts-/ , and /-tš-/ “cause to”, were morphologically positioned by the Sesotho learners, between the verbal radicals and the verbal suffixes (Guma, 1974; Machobane, 2010). Since the verbal extensions are morphemes, which constitute items inserted between the verbal radicals and the verbal suffixes, sequentially following a word-formation rule, the IP theory is at play in this affixation. On this basis, words are formed through a process in which verbal extensions and other morphemes serve as items used in the process of affixation to form new words.

Conclusion

This chapter has discussed the existent of Sesotho causative verbal extensions. Using the IP sub-theory of the MBM, the chapter has unpacked such a morphological position within the Sesotho verb. Based on its morphological position, the study argues that the Sesotho causative verbal

extension is infixes in between the verbal radical and the verbal suffix. The next chapter presents the effects of these verbal extensions on Sesotho verbal and sentential semantics and the contexts in which they are more problematic.

CHAPTER 3: THE SEMANTIC EFFECTS OF SESOTHO CAUSATIVE EXTENSIONS ON SESOTHO VERBS AND SENTENCES

3.0 Introduction

The previous chapter identified, discussed and analysed the morphological position of Sesotho causative verbal extensions in Sesotho derivative verbs. This chapter analyses the effects of using causative verbal extensions on Sesotho verbs.

3.1 An Effect

An effect, as defined by Straus and Kaufman (2014), is a change which is a result of an action or other cause. Hence, Ryan (2023) acknowledges it as the consequence of an action. The current study understands an effect as the difference that may be brought forth by a particular action or a cause. In this study, the Image Theory of Meaning (ITM), which proposes that words should be analysed in terms of their image or picture in the speaker's mind, has been adopted. This chapter sequentially analyses the effects of causative verbal extensions */-is-/*, */-es-/*, */-ts-/* and */-tš-/* “cause to” on Sesotho verbs and sentences. These effects include lexical ambiguity and sentential ambiguity. The chapter further unveils the contexts in which these verbal extensions are more challenging.

3.1.1 Lexical Ambiguity Effected by Causative Verbal Extensions

As mentioned in Chapter Two, an extension should be inserted between the verbal radical and the verbal suffix, to form a newly derived verb. The study has observed from the collected data that the insertion of this extension changes the meaning of the lexical verb into that of the derivative verb, with

more than one meaning. Regarding this, a Sesotho verb or a sentence becomes ambiguous when such causative verbs are used with them. Kadlub (2017) states that an expression is ambiguous if it has more than one meaning. She asserts that ambiguity not only concerns meaning, but it also concerns interpretations by the listener or hearer. Hence, Yastanti and Setiawan (2018) agree with Kadlub (*ibid*) that a word or a sentence is ambiguous when it can be expressed in more than one way. That is, in the interpretation, it can lead to two or more meanings. Hence, Fera (2019) embraces lexical ambiguity as a linguistic term for a word's capacity to carry two or more different meanings. It could be understood, in this study that, once a word or a sentence is interpreted in more than one way, that particular word or sentence is ambiguous. The researcher has observed, therefore, that using causative extensions leads to lexical ambiguity. Used with some Sesotho verbs the examples below show ambiguity, resulting from the causative verbal extensions.

Table 5: The Ambiguous Derivative Sesotho Verbs

verb	1st meaning	2nd meaning
a) -bal <u>i</u> sa	cause to read	help to read/read together with
b) -hlo <u>e</u> sa	cause to climb	help to climb/climb together with
c) -rob <u>a</u> t <u>s</u> a	cause to sleep	lay to sleep/sleep together with
d) -bint <u>š</u> a	cause to sing	help to sing/sing together with

In the above table, the first column contains derivative verbs; the second column contains the first meaning of such verbs in column one, and the third column contains the second interpretation of such verbs. The underlined morphemes in verbs *-balisa* “cause to read”, *-hloesa* “cause to climb”, *-robatsa* “cause to sleep” and *-bintša* “cause to sing” are the causative verbal extensions. In 5 (a) above, the word *-balisa* “cause to read” or “help to read” is a derived verb from a Sesotho basic verb *-bala* “read”, through the insertion of the verbal extension */-is-/* “cause to”, between the verbal radical */-bal-/* and the verbal suffix */-a/*. When this causative verbal extension is infixated into this verbal radical, the new verb, *-balisa* “cause to read”, which has more than one meaning, is formed. According to linguistics academics, this verbal extension brings about lexical ambiguity to the listeners or hearers. That is, it can be interpreted either as “cause to read” or “help to read”, thus having lexical ambiguity effected by the affixation of the causative verbal extensions */-is-/* “cause to”.

Similarly, in 5 (b), the lexeme *-hloesa* “cause to climb” is a derived verb from a basic verb *-hloa* “climb”, into which the verbal extension */-es-/* “cause to” is infixated between the verbal radical */-hlo-/* and verbal suffix */-a/*. The target lecturers responded that because of the infixation of the causative verbal extension */-es-/* “cause to” into the basic verb, the new ambiguous verb *-hloesa* “cause to climb”, which has more than one meaning or interpretation, is derived. The causative verbal extension */-es-/* “cause to” has made the verb *-hloa* “climb” above to be interpreted in two different ways, which could either be “cause to climb by forcing” or “help to climb by climbing with someone”. Therefore, lexical ambiguity results from the use of this verbal extension.

Likewise, in 5 (c), the lexical item *-robatsa* “cause to sleep”, is a derivative verb formed from the basic verb *-robala* “sleep”. Through the infixation of the verbal extension */-ts-/* “cause to”, between the verbal radical */-robal-/* and verbal suffix */-a/*, this derived verb is formed. The affixation of the causative verbal extension */-ts-/* “cause to” has led to the formation of the new ambiguous verb *-robatsa* “cause to sleep”, which has more than one interpretation. This newly formed verb can be interpreted in two different ways, which could be “cause or force to sleep” or “sleep together with”, hence, the lexical ambiguity effected by this extension, comes to the surface.

In 5 (d), the lexeme *-bintša* “cause to sing” or “help to sing”, is a Sesotho derived verb from the basic verb *-bina* “sing”. This newly formed verb is formed through the insertion of the causative verbal extension */-tš-/* “cause to” between the verbal radical */-bin-/* and verbal suffix */-a/*. The respondents indicated that when this extension is infixed between the verbal radical and verbal suffix, the new ambiguous verb *-bintša* “cause to sing”, which has more than one meaning, is formed. The researcher observes that this is the case in example (d), with the verb being interpreted in two ways, as in either “cause or force to sing” or “help to sing”. As such, lexical ambiguity could be brought forward by the infixation of this causative verbal extension. The analysis of all the verbs above is done through the application of the ITM, which proposes that words should be analysed regarding their image in the speaker’s brain.

The study observes that the infixation of these causative verbal extensions into the Sesotho basic verbs, leads to lexical ambiguity. That is, the newly

formed verbs can be interpreted or understood in more than one way. Such, at times, affects communication between the speaker and the hearer.

3.1.2 Sentential Ambiguity Effected by Causative Verbal Extensions

Fera (2019) explains that sentential ambiguity occurs when a sentence can be interpreted in more than one way. Fera (*ibid*) further argues that this situation is due to ambiguous sentence structure. That is, results from lexical (semantic) ambiguity and syntactic (structural) ambiguity (Nordquist, 2019). Hence, Tarigan (2022) acknowledges that syntactic ambiguity occurs when a phrase or a sentence has more than one basic structure. The current study understands that a sentence might carry more than one interpretation because of the use of a certain word that has more than one meaning or the arrangement of words within that particular sentence. However, the respondents emphasised that the causative verbal extensions, as the focus of this study, can also cause this sentential ambiguity.

Examples 3 (a), (b), (c), (d) and (e) below, reflect the sentential ambiguity effected by the affixation of the causative verbal extensions into Sesotho basic verbs. As collected from the respondents, these sentences convey different meanings, resulting from the affixation as illustrated below:

3. (a) *Tichere e ngolisa barutoana.*

9-Teacher 9-AGR write-CAUS 2-students.

LIT- Teacher is write students.

“The teacher makes the students to write”

OR

“The teacher helps the students write”

OR

“The teacher registers the students”

(b) *Malome o phehisa motsoala.*
1-Uncle 1-AGR cook-CAUS 1-cousin

LIT- Uncle is cook cousin.

“Uncle causes the cousin to cook”

OR

“Uncle helps the cousin to cook”

(c) *O noesa ngoana lebese.*
1-AGR drink-CAUS 1-child 5-milk.

LIT- Is drink child milk.

“She helps a child to drink milk”

OR

“She causes or makes a child to drink milk”

OR

“She drinks the milk with the child”

(d) *Ngoanana o robatsa ngoana.*
1-Girl 1-AGR sleep-CAUS 1-child.

LIT-Girl is sleep child.

“A girl makes or causes a child to sleep”

OR

“A girl sleeps together with a child”

(e) *Tichere e bintša barutoana.*

9-Teacher 9-AGR sing-CAUS 2-students.

LIT-Teacher is sing students.

“The teacher makes the students sing”

OR

“The teacher helps the students to sing”

The sentences in 3 (a), (b), (c), (d) and (e) above, were declared ambiguous by the respondents. They indicated that the use of the causative verbal extensions /-is-/, /-es-/, /-ts-/ and /-tš-/ “cause to”, on Sesotho basic verbs *-ngola* “write”, *-pheha* “cook”, *-noa* “drink”, *-robala* “sleep” and *-bina* “sing” respectively, has led to the derivation of ambiguous verbs *-ngolisa* “help to write”, *-phehisa* “cause to cook”, *-noesa* “cause to drink”, *-robatsa* “cause to sleep” and *-bintša* “cause to sing”. When they are used in sentences, these derived verbs make the sentences to be interpreted in more than one way. Hence, sentential ambiguity that occurs due to the affixation of the said causative verbal extensions. In sentence 3 (a), for instance, the Sesotho sentence *tichere e ngolisa barutoana* “the teacher registers the students” can be interpreted as “the teacher makes the students write” or “the teacher helps the students to write” or “the teacher registers the students”.

As put forth by the respondents, sentence 3 (b), *malome o phehisa motsoala* “uncle causes or forces cousin to cook”, can similarly be interpreted in either way, which can either be “uncle forces the cousin to cook” or “uncle helps the cousin to cook”. Similarly, sentence 3 (c), *O noesa ngoana lebese* “she helps a child to drink milk”, can also be interpreted in three different ways. For instance, the sentence might mean that “She helps a child to drink milk” or “she makes a child drink milk” or “she drinks the milk with the child”. Also,

sentence 3 (d), *ngoanana o robatsa ngoana* “a girl lays a child to sleep” might as well be interpreted in more than one way. To cite an instance, this sentence might mean that “a girl causes a child to sleep” or “a girl sleeps together with a child”. The similar feature is evident in sentence 3 (e), in which a Sesotho sentence *tichere e bintša barutoana* “a teacher helps the learners to sing”, can also be understood in two different ways. Such meanings can either be, “a teacher causes the learners to sing” or “a teacher helps the learners to sing”. This implies that causative verbal extensions renders derived verbs ambiguous, hence, sentential ambiguity. As a result, there might be communication breakdown between the speaker/writer and the hearer/reader.

It should be noted that the verbs *-ngolisa* “cause to write”, *-phehisa* “cause to cook”, *-noesa* “cause to drink”, *-robatsa* “cause to sleep” and *-bintša* “cause to sing” are analysed according to what form the image takes in both the speaker’s and the hearer’s mind. This finding coheres with the ITM which proposes that the meaning of words should be analysed in terms of the image in the speaker’s brain.

3.2 The Causative Verbal Extensions in Various Contexts

The researcher has observed from the collected data that the causative verbal extensions may pose challenges in some cases. Further noted is that it is not in every context where a causative verb causes ambiguity to a Sesotho sentence. The purpose of this section is to identify the various uses of these verbal extensions in different contexts. That is, the contexts in which the said extensions do not cause ambiguity, together with those in which they cause ambiguity are analysed below:

3.2.1 Non-Problematic Contexts

As collected from the respondents, the following sentences illustrate the situations in which the causative verbal extensions do not lead to sentential ambiguity, in which case a sentence cannot be understood in more than one way. The study has also observed that in contexts where the objects are inanimate, the causative verbal extensions do not cause any ambiguity to the sentences as against contexts, where the objects are animate, as discussed in 3.3.2. For instance,

4 (a) *Monna o ngolisa kolo.*

1-Man 1-AGR write-CAUS 9-car

LIT-Man is write car.

“Man registers a car”

(b) *Mosali o bentša lipitsa.*

1-Woman 1-AGR glitters-CAUS 10-pots.

LIT-Woman is glitter pots.

“A woman causes the pots to glitter”

(c) *Ngoanana o bapalisa popi.*

1-Girl 1-AGR play-CAUS 9-doll.

LIT-Girl is play doll.

“A girl plays with a doll”

(d) *Molisana o chesa moru.*

1-herdboy 1-AGR burn-CAUS 3-forest.

LIT-Herdboy is burn forest.

“A herdboy burns the forest”

In examples 4 (a), (b), (c) and (d) above, the verbs *-ngolisa* “cause to write”, *-bentsša* “cause to glitter”, *-bapalisa* “cause to play” and *-chesa* “cause to burn” are the derived verbs formed after the infixation of causative verbal extensions */-is-/* “cause to”, */-tš-/* “cause to” and */-es-/* “cause to”, into the basic verbs *-ngola* “write”, *-benya* “glitter”, *-bapala* “play”, and *-cha* “burn” respectfully. From the data, the researcher has observed that used in sentences, these derived verbs do not make the sentences interpreted in more than one way. As such, there is no sentential ambiguity effected by these causative verbal extensions in these contexts. The study has observed this absence of ambiguity to be resulting from the use of the inanimate objects as the complements of the derived verbs. For instance, the Sesotho sentence *monna o ngolisa kolo* “a man registers a car”, can be interpreted in only one way, which is, “a man registers a car”. Secondly, the Sesotho sentence *mosali o bentsša lipitsa* “a woman causes the pots to glitter”, can also be understood in only one way, which is “a woman makes the pots to glitter”. This is also evident in the Sesotho sentences *ngoanana o bapalisa popi* “a girl plays with a doll” and *molisana o chesa moru* “a herdboy burns the forest”, as they can also be interpreted in only one way, being “a girl plays with a doll” and “a herdboy burns the forest” respectfully.

3.2.2 Problematic Contexts

In the contexts in which the objects are animate, as in 3.2.2, the use of the causative verbal extensions effects both lexical and sentential ambiguities. For instance, when the object of the verb *-ngolisa* “cause to write” is animate and capable of doing the action on its own, it conveys different meanings, emanating from the use of the aforesaid verbal extensions. For instance, the

Sesotho sentence *tichere e ngolisa barutoana* “a teacher causes the students to write”, in 3 (a) above, reflects the sentential ambiguity caused by the causative verbal extension /-is-/ “cause to” that it is infixes into the Sesotho basic verb *-ngola* “write”, leading to the derivation of the ambiguous derived verb *-ngolisa* “help to write”. As earlier argued, used in a sentence, such a derived verb causes the sentence to be interpreted in more than one way. Thus, sentential ambiguity occurs due to the insertion of the causative verbal extension /-is-/ “cause to” in the environment of an animate object that acts as a complement.

According to the informants, the Sesotho sentence, *Tichere e ngolisa barutoana* “Teacher makes the students write”, can be interpreted as “the teacher causes the students to write” or “the teacher helps the students to write” or “the teacher registers the students”. This implies that in the context where the objects are the animate entities which are capable of performing actions on their own under normal circumstances, the causative verbal extensions renders the derived verbs ambiguous, hence, sentential ambiguity. As a result, there might be a communication breakdown between the speaker and the listener. The verb *-ngolisa* “cause to write” is analysed according to how the listener perceives the meaning of the verb on the basis of the image that comes to the picture when an ambiguous sentence is uttered. This conforms to the ITM, which proposes the meaning of words as having to be analysed in terms of the image in the speaker’s brain.

Conclusion

The purpose of this chapter was to analyse the semantic effects of Sesotho causative verbal extensions on Sesotho verbs and sentences. The different

meanings deriving from the use of such verbal extensions were unveiled. Based on their usage, it has been argued that the Sesotho causative verbal extensions cause lexical ambiguity on Sesotho verbs, sometimes yielding sentential ambiguity; the phenomenon that effects communication breakdown between the participants. The chapter has also revealed that the use of causative verbal extensions with some verbs poses more problems in situations, involving animate objects which can do actions on their own, something which poses no problems in contexts bearing inanimate objects.

CHAPTER 4: THE STRATEGIES FOR OVERCOMING THE EFFECTS OF THE CAUSATIVE EXTENSIONS

4.0 Introduction

In the previous chapter, this study analysed the effects of the use of causative verbal extensions on Sesotho verbs and sentences. The contexts in which these extensions are more problematic have also been discussed. In line with the previous chapter of analysis, based on the ITM, this chapter explores the strategies of overcoming the effects of the causative verbal extensions as analysed in chapter three.

Henry (2018) asserts that a strategy determines the major plans to reach a certain objective, something which Bukhari (2019) considers to be a way of determining how we will win in the period ahead. As such, Sabah (2023) defines a strategy as a coordinated and integrated set of actions aimed at securing a sustainable competitive advantage. In this study context, a strategy is a method that can be used to achieve a particular goal.

As indicated in Chapter One, the data are thematically organised according to the different strategies that have been anticipated in the hypotheses in this chapter. The thematisation is divided into three sections: Section 4.1 presents and discusses the use of context and suggests the word sense disambiguation strategy. Section 4.2 proposes the avoidance of the use of the causative morphemes to avoid ambiguity, while Section 4.3 concludes the chapter.

4.1 Context Provision

One of the disambiguation strategies suggested by the selected sample is the consideration and the use of a context in which communication takes place. Dixit, Dutta and Singh (2015) define context as the text or words which are surrounding the ambiguous word. This view is strengthened by Dohn, Hansen and Klausen (2018), by defining context as any background knowledge assumed to be shared by the speaker and hearer which contributes to the hearer's interpretation of what the speaker means by a given utterance. Jiangli (2021) concurs and explains that context can be understood as some factors abstracted from concrete situations that influence the participants. Context can also be viewed as background knowledge shared by participants. Taking the point further, Yang and Rong (2022) view context as the environment that forms discourse and one of the key factors influencing its comprehension. This study understands context as the parts of a written or spoken statement that comes first or follows a specific word or a passage, usually influencing its meaning.

Context plays a major role in eliminating ambiguity, as humans can use the context to easily sense the correct meaning of the word in a context (Yang & Rong, *ibid*). The following sentence illustrates the situation in which there is a lack of situational context, and hence, leaves the sentence ambiguous:

5. 'M'e o phehisa ausi.

1-Mother 1-AGR cook-CAUS 1-sister

LIT- Mother is cook sister.

“The mother forces the sister to cook”

OR

“The mother helps the sister to cook”.

When the context is not clear as in 5 above, this sentence becomes ambiguous, as it can be interpreted in more than one way. As gathered from the respondents, sentence 5 is ambiguous as it can be understood either as “the mother forces the sister to cook” or “the mother helps the sister to cook”. Sentence 6 below illustrates:

6. *M'e o phehisa ausi ka khang*
1-Mother 1-AGR cook-CAUS 1-sister by-PRP force-ADV
LIT- Mother is cook sister by force.
“Mother forces the sister to cook”.

Because of the clear context, sentence 6 is not ambiguous. This follows from the participants' indication that the use of the elaborative adverbial phrase *ka khang* “by force”, has made the context clear. Therefore, the context in this sentence made this sentence be interpreted in only one way, which is, “the mother forces the sister to cook”. According to the ITM, such a clarified context helps the hearer to have just one picture in mind and understand the sentence in only one way.

Noticeable is that context consideration is one of the key factors to inducing the understanding of an utterance. Therefore, providing or making context clear in conversations helps the participants to understand one another. As such, this study considers the context as a strategy to disambiguate the given expressions. The study also observes that detecting the appropriate meaning of any ambiguous expression with a clear context can cause no misunderstanding, thereby aiding comprehension of ideas being

communicated. According to Popov (2018), context can be classified into both a word sense and knowledge-based methods, as discussed below.

4.1.1 Word Sense Disambiguation

Another strategy grasped from the documentary data that this study presents for dealing with ambiguity, is the word sense disambiguation (WSD) strategy. For instance, Popov (2018) defines WSD as the task of making spontaneous choices regarding which sense of a word is used in a particular context. Probably on this basis, Rahman, Khan and Hasan (2019) offer that WSD is a process of finding the appropriate sense of an ambiguous word. Han and Si (2019) further explain the purpose of WSD as determining the specific semantics of words in context. In this study, the WSD is understood to be a process of identifying which sense of a word is meant in a sentence or other parts of context. This view is supported by Luan, Hauer, Mou and Kondrak (2020), asserting that WSD aims to identify the correct sense of a content word in context. These authors agree that WSD is one of the core tasks in natural language processing (NLP), where the meaning of words is computationally identified in context. Implied here is that, in WSD, context plays a major role in determining the correct sense of a word used. The authors' views are theoretically complemented by the ITM principle that deals with the form that the image takes in the hearer's or the reader's mind. Contrasting with Han and Si (2019) who see a word with multiple meanings as having different meanings in different contexts, the following sentences exemplify such a phenomenon.

8. *Ntate o mathisa bana.*

1- Father 1-AGR run-CAUS 2-children

LIT- Father is run children.

“father forces the children to run”

OR

“father runs with the children”

The verb –*mathisa* “cause to run”, is ambiguous in this context. However, this verb is not ambiguous in the following context:

9. *Ntate o mathisa bana ka khang*

1-Father 1-AGR run-CAUS 2-children by-PRP force-ADV

LIT-Father is run children by force.

“father forces the children to run”.

The word sense disambiguation involves three methods, namely Knowledge-based Methods, Supervised Methods and Unsupervised Methods (Han & Si, 2019; Popov, 2018).

4.1.2 Knowledge-based Methods

Dixit, Dutta and Singh (2015) explain that a knowledge-based approach, based on the knowledge resources of machine-readable dictionaries, in the form of a corpus or a WordNet, may use grammatical rules for disambiguation. They further assert that the aim of the Knowledge-based approach (Dictionary-based approach) and Word Sense Disambiguation (WSD) is to exploit the knowledge resources to deduce the meanings of

words in context. Han and Si (2019) add that knowledge-based methods use dictionaries to obtain the relationship between the semantics of words to disambiguate. They explain that using such methods requires one to have a large semantic knowledge base such as WordNet (a large lexical database of English).

For this study, knowledge-based methods mainly refer to the acquisition of semantic knowledge from dictionaries to detect the relationship between words, through the construction of a large-scale knowledge base to assist in disambiguation. However, these methods are not applicable to Sesotho, as it has no lexical corpus such as machine readable dictionaries. For instance, the Sesotho sentence below illustrates a situation where the above strategies fail to disambiguate a word in a sentence.

10. *Lepolesa le lemisa batšoaruo.*

5-Policeman 5-AGR cultivates-CAUS 2-prisoners

LIT-Policeman is cultivate prisoners.

“The policeman forces the prisoners to cultivate”

OR

“The policeman helps the prisoners to cultivate”

In sentence 10, the lexeme *lemisa* “cause to plough” is ambiguous, as it can be interpreted in more than one way, which can either be “cause to cultivate” or “help to cultivate”. When this verb is used in a sentence, as in 8 above, it makes it to be ambiguous. When trying to disambiguate this sentence through the use of WSD and its approaches, such as the knowledge-based approach, which depends entirely on dictionaries to disambiguate, it becomes difficult to

do so. This is because there is no dictionary where the lexeme *lemisa* “cause to plough” can be found as a Sesotho word with its related words.

4.1.3 Supervised and Unsupervised Methods

Dixit *et al.* (2015) assert that the supervised technique uses machine-learning techniques to induce a classifier from manually sensing annotated data sets. They add that the classifier is concerned with a single word and performs a classification task to assign the appropriate sense to each example word. In this technique, the classifier contains a set of examples in which a given target word is manually tagged with the sense from the sense inventory of a reference dictionary (Popov, 2018). On the contrary, the unsupervised disambiguation technique does not need the hand-labelled knowledge of sense information in large-scale resources for the disambiguation (Dixit, Dutta & Singh, 2015). Masethe, Masethe, Ojo and Owolawi (2022) observe that in this technique, word senses are derived by forming a cluster of occurrences of words, also classifying the new occurrence with the derived clusters. They view this approach as detecting the clusters, instead of assigning sense labels, implying that context is a technique under unsupervised WSD.

The methods under WSD above, are found to be inapplicable to the Sesotho language. This is because the Sesotho language of Lesotho is a Bantu language which is not well-represented through the digital language device. Nor does it have sentence examples to justify their applicability.

4.2 The Avoidance of Causative Morphemes

Another strategy for sentential disambiguation is the avoidance of using the causative verbal extensions’ morphemes. This implies that if the speaker decides to use other elaborative words than causative verbs, the utterances

become clearer to the listeners from the beginning, thus overcoming of effects of causative verbal extensions. The sentences in 7 below exemplify:

7. a) *Malome o tšellisa motsoala serapa.*
 1-Uncle 1-ARG water-CAUS-IND 1-cousin 7-garden
 LIT-Uncle is water cousin the garden
 “Uncle waters the garden with the cousin”

OR

“Uncle forces the cousin to water the garden”

b) *Malome o thusa motsoala ho tšella serapa.*
 1-Uncle 1-AGR help-IND 1-cousin to-INFL water-IND 7-garden
 LIT- Uncle is help cousin water the garden
 “Uncle helps cousin to water the garden”

c) *Malome o qobella motsoala ho tšella serapa.*
 1-Uncle 1-AGR force-Tns 1-cousin to-INFLwater-APP 7-garden
 LIT- Uncle is force the cousin to water the garden
 “Uncle forces cousin to water the garden”

The use of the causative verbal extension */-is-/* “cause to” or “help to” in Sentence 7 (a), has led to sentential ambiguity, as the utterance is likely to be interpreted in different ways. The images that come into the hearer’s mind are more than one. The listener might comprehend the sentence to either mean “uncle helps cousin to water the garden” or ‘uncle forces cousin to water the

garden. Hence, a sentential ambiguity that needs to be disambiguated. On the contrary, in Sentence 7 (b) and (c), the speaker has avoided the affixation of causative verbal extension morphemes. Instead, substituting the specific and elaborate words for these morphemes helps the hearer to have only one picture or image of an occurrence for each expression, and easily decode the intended meaning of such sentences, without any ambiguity.

Conclusion

The chapter has discussed the strategies employed to overcome the effects of the causative verbal extensions on Sesotho verbs and sentences. The chapter has observed that context consideration and avoidance of causative verbs solve the effects of ambiguity effected by the above-mentioned extensions. Also highlighted are other methods of disambiguation such as WSD and its techniques which cannot help to solve the effects of the use of causative verbal extensions. The next chapter presents findings and recommendations of the study.

SECTION 5: GENERAL CONCLUSION

5.1 Introduction

This study aimed to identify and analyse the existent causative verbal extensions. Further, the study aimed to unveil their morphological position in Sesotho-derived verbs, to discover their semantic effects on Sesotho verbs and sentences, as well as uncovering the strategies to overcome such effects. The IP approach and ITM were used in the analysis of data.

5.2 Summary

Chapter One has introduced this study, providing the background and context of the study. Also included are the research problem of the study and the research questions and objectives serving as the guide to this study. Highlighting the significance of the study, the chapter then presented the related literature and theoretical framework as well as methodology for data collection and analysis of the study. The chapter has concluded by presenting the organisation and delimitation of this study.

Chapter Two has explored existent various causative verbal extensions and their morphological positions as in */-is-/*, */-es-/*, */-ts-/* and */-tš-/* “cause to” in Sesotho. Applying the IP approach, the study has discovered and illustrated morphological positions of such verbs in between the verbal radical and the verbal suffix */-a/*.

In Chapter Three, the effects of the causative verbal extensions on Sesotho verbs have been unveiled as the lexical ambiguity, something which sometimes, causes sentential ambiguity, and in turn communication breakdown between the speaker and the hearer. It can be concluded that

causative verbal extensions cause ambiguity in both Sesotho verbs and sentences. The chapter has further revealed the syntactic contexts in which these extensions pose problems and the contexts in which they do not cause any problems. Further noticeable are the contexts where the objects are inanimate, with the causative verbal extensions, including animate objects not effecting and those affecting ambiguity on the Sesotho sentences.

Through the application of ITM, Chapter Four analysed the strategies that can be used to overcome the effects of causative verbal extensions on Sesotho sentences. Such strategies were discovered as context awareness, avoidance of causative verbs and Word Sense Disambiguation (WSD). Other discoveries involve the WSD, with such techniques as the knowledge-based approach and supervised and unsupervised methods. The chapter then revealed context awareness as applicable to solving the effects of ambiguity effected by the causative verbal extensions in Sesotho. The chapter further argued that however, WSD and its techniques do not apply to solving ambiguity caused by the said extensions in the Sesotho language, which is not well-represented through the digital language device. The final stage of the analysis was the examination of the strategies that can be used to overcome the effects of the mentioned extensions.

5.2 The Study findings and Conclusions

The study has analysed the existent causative verbal extensions, identifying their morphological position as between the verbal radical and the verbal suffix */-a/*. The effects of these extensions were discovered as both lexical and sentential ambiguities. Both problematic and unproblematic contexts have been unveiled. Also, the strategies that can be used to overcome such effects

on Sesotho verbs and sentences were highlighted. The study concludes that the use of causative verbal extensions brings lexical ambiguity to Sesotho verbs, which at times, leads to sentential ambiguity, the phenomenon that effects communication breakdown between the speaker and the hearer. Furthermore, the study concludes that, in contexts in which the object is animate, the causative verbal extensions pose problems, while in the environment of the inanimate object, there is no such problem. The study concludes that the better way to deal with lexical and sentential ambiguity is to make the context clear to those who are engaged in a conversation, both in oral and written communication. It is also concluded that WSD cannot disambiguate Sesotho verbs and sentences due to the absence of Sesotho in digital language devices.

5.4 Recommendations

While the study has established the semantic effects of causative verbal extensions on Sesotho verbs and sentences, it could recommend further investigation into the same phenomenon. Also recommended is closer attention to causative verbal extensions, without which confusion and communication breakdown could ensue among any given communicants. Typical of any such confusion could be multiple interpretations of Sesotho verbs and sentences deriving from such verbal extensions.

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