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**DESCRIPTION OF LEXICAL SEMANTIC RELATIONS IN  
ETHIOPIAN SIGN LANGUAGE: IMPLICATIONS FOR SIGN  
LANGUAGE DICTIONARY MAKING**

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**ADDISABABA**

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Ethiopian Sign Language: Implications for Sign  
language Dictionary Making**

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## **List of Abbreviations**

ASL	American Sign Language
EthSL	Ethiopian Sign Language
JSL	Japanese Sign Language
Auslan	Australian Sign Language
NZSL	New Zealand Sign Language
TID	Turkish Sign Language
DGS	German Sign Language
USL	Ugandan Sign Language
EthSLD	Ethiopian Sign Language Dictionary

## **Abstract**

*Lexical semantic relations are the dominant part of semantic relations in exploring the meanings of words or signs and relevant for dictionary-making. Lexical relations are significant to analyzing the meanings of words or signs in terms of their relation to each other within or without contexts. The analysis of lexical-semantic relations is also important to treat semantic differentiation of words or signs entry in dictionary-making. This study was designed to investigate the lexical-semantic relations of signs in Ethiopian Sign Language (hereafter, EthSL) through the application of linguistic knowledge. Besides the study analyzes the details in which these relations are tackled in the EthSL dictionary and way forward implications for dictionary-making. It was set to identify the semantically related signs and to describe them systematically and the way these relations are tackled in the EthSL dictionary. To achieve the objective of the study, a qualitative descriptive method was employed in the analysis and discussion of the findings. The data were collected through video recording, interview elicitation, observation, and EthSL dictionary analysis. Twelve deaf informants (6 from Addis Ababa and 6 from Hossana) were selected for the study to collect the applicable data. The data were identified, analyzed, and described in line with theories and definitional concepts on lexical relations. The findings of the study indicated the notions of lexical relations in EthSL and the way they are tackled in the EthSL dictionary. The relations included in this study are polysemy, synonymy, antonym, homonymy, and metonymy. Signs in EthSL with multiple meanings and sameness in form (polysemy) are related and associated with certain semantic patterns like the semantic patterns that emerged relating to the case of action vs activity, Noun vs Verb dichotomy, or the relation between function vs object (grammatical), the pattern of signs denoting animals and the meat of those animals, pattern relates to the name of a language, the speakers (the people) -as a polysemous sign is used to refer to the language, the people and the ethnic name and like. The study examined different motivational/ extensional processes to form polysemous signs in EthSL such as metonymically motivated EthSL polysemous signs, for example, the sign for 'car' vs the sign for 'to drive', metaphorically motivated EthSL polysemous signs, for example, EthSL sign for 'fish', 'fish food', polysemous EthSL signs that arise from the influence of ASL and the Amharic language; For example, polysemous signs that iconically motivated, as in the sign for 'pot', 'kettle', 'jog'. Synonyms in EthSL are described and classified as total, dialectical, ideographic, contextual, and stylistic synonyms. Both types and classifications of synonyms are applied inclusively to describe EthSL synonymous signs. The antonyms in EthSL are formed by changing the movement parameter of the sign to the opposite direction; for example the sign for 'lend' vs 'borrow', through changing the palm orientation of the opposing sign; for example; the sign for 'good' vs 'bad', through opposite relation lexical sign; for example; the sign for 'alive' vs 'death', morphological process of forming antonyms; for example the sign for 'know' vs 'not-know' and by putting the sign at the opposite location; for example the sign for 'father' vs 'mother'. The antonymy signs in EthSL are categorized as reverse opposition, converse opposition, antipodal opposition, kinship opposition, gradable opposition, non-gradable opposition, and directional opposition. Homonymy signs in EthSL are displayed through iconic similarity between entities, and grammatical derivation during conversation as a result of borrowing and sometimes mixing and mistakenly interchanging signs. For metonymic signs in*

*EthSL, the articulator of the sign, the articulator's resemblance to the entity and pointing of the referents are some aspects that highlight metonymic signs. The study introduced the further structure of semantic relations into the dictionary. To recommend, that morphologically related forms should be grouped where listing these forms separately obscures the lexical relation between them, combining morphologically related entries; distinguishing between homonymy and polysemy in the way that translations are grouped; cross-referencing synonyms would provide a richer and more transparent understanding of the language to a user of the dictionary.*

# CHAPTER ONE

## BACKGROUND OF THE STUDY

### Introduction

This introductory chapter deals with basic research issues such as the background of the study, the statement of the problem, the research objectives, the significance of the study, the scope of the study, and the Conceptual Framework of the study.

### Semantics

Semantics is one of the most important branches of linguistics that specifically deals with meaning. It studies how languages make meaning with linguistic units and how they (words, sentences, texts, etc.) can have various meanings for different people depending on different situations. Thus, meaning is the main issue in all semantic studies. It focuses on how lexical words can make meaning through having similar or different relations among them (Hurford, et al 2007:120). However, sign language linguistics did not get the due attention of the linguists who were thought to favor the semantics of traditional domains like phonology, morphology, and syntax. Therefore, studying semantics in sign language is crucial to understanding the language and the information of lexical semantic relations which in turn pave the way for realizing the language in the dictionary. Then, the main purpose of this research is to focus on the five different lexical/semantic relations between the lexical signs in EthSL to realize how semantics can lead us to find out the meanings from such relations. Apart from investigating how these lexical relations are used in the EthSL dictionary, in this research attempts have also been made to forward ways to prepare a dictionary.

Lexical relations are one of the crucial sub fields of semantics which are mainly concerned with approaching the meanings of words or signs through relating them to other words or signs within one's language sentences. These relations are manifested according to the type of relationship that a word or sign may have with another word or words as when having two words or signs with associated meanings, two words or signs with opposite ones, and so on. Moreover, lexical relations play a major role in explaining the exact meaning of words or signs concerning other words or signs and not with the meaning of the word or sign itself. This study aims to examine such types Throughout this account of the EthSL lexicon the term 'sign'<sup>1</sup> will be used as a rough equivalent to 'word' in spoken language of semantic relations by showing the main aspects of lexical relations in addition to analyzing their

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<sup>1</sup> Throughout this account of the EthSL lexicon the term 'sign' will be used as a rough equivalent to 'word' in spoken language

appearance and explanation in the EthSL dictionary. The study focuses in particular on polysemy, antonyms, synonyms, homonyms, and metonyms with various instances and descriptions in EthSL. Finally, it aims to elaborate on the appearance of these lexical-semantic relations in the EthSL dictionary and recommends making a better dictionary.

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As explained above, lexical semantics is one of the subfields of semantics that is entirely concerned with the study of the meanings of words or signs in terms of their relationships with other words or signs. According to Yule (2006), semantics is the technical term used to refer to the study of meaning. When language users hear or read, they can recognize the patterns of sounds (sign components in sign language) or letters that correspond to the lexical items in their lexicon. Each word or lexical item contains meaning. Kenworthy (1991) notes that the description of the meaning of a word is complex and this description constitutes the area of study in modern linguistics called lexical semantics. Kenworthy (1991) continues showing the following principles that need to be considered in the lexical relations and which are regarded as attributes of word properties and features: (i) the referential relation between the word and an entity in the world which is termed its denotation in linguistics, (ii) the relation between the word and other words in the language which is also called sense relations, (iii) the other words which co-occur with it in the language which is technically termed as collocations, and (iv) the use of the word in the language in terms of restrictions which is a form of communicative value. Therefore, it is not an easy task to learn the connections between words or signs and their meanings. This study mainly focuses on the relation between the signs and other signs in Ethiopian Sign Language (EthSL). This study uses the term lexical relation or lexical-semantic relation instead of sense relations since these terms are used interchangeably in most studies.

The units of analysis in lexical semantics are lexical units that include not only words but also sub-words or sub-units such as affixes and even compound words and phrases. Lexical units make up the catalog of words in a language, the lexicon. Lexical semantics looks at how the meaning of the lexical units correlates with the structure of the language or syntax (Festus, 2016:1).

Khoo & Na (2006: cited in Festus 2016:2) state that lexical-semantic relations are meaningful associations between two or more lexemes, entities, or sets of entities. They can be viewed as directional links between the lexemes, and concepts/entities that participate in the relations.

They are an integral part of the relationship as a relationship cannot exist by itself unless it relates to two things. Associations between lexemes and concepts/entities can be categorized into different

types; they are abstracted, conceptualized, and distinguished from other associations, and they can thus be assigned meaning. The meaning or type of an association can sometimes but not always be derived from the meanings of the participant lexemes and concepts (Festus, 2016:2).

Linguists in the structuralism tradition, for example, (Lyons, 1977:97; Saussure, 1959:36) assert that lexemes and concepts cannot be defined on their own but only in association with other concepts. Green, Bean & Myaeng (2002 cited in Festus 2016:2) note that semantic relations play a critical role in how we represent knowledge psychologically, linguistically, and computationally, and that many systems of knowledge representation start with a basic distinction between entities and relations.

In general, to the best knowledge of the researcher, there are no differently developed semantic theories for sign language research; thus, this study is forced to adopt theories from spoken language semantics. As mentioned above, focusing on the relationship between lexicons of EthSL semantically, in this study attempts have been made to show how semantics can be used to understand new meanings within the relations between lexical signs.

## **Linguistic Semantics**

As studies in linguistics depict, semantic investigation operates at two levels: word level and sentence level. The former, which is the focus of this study, explores the relationships that words have with each other within a language system which can be defined in terms of synonymy, antonymy, polysemy, homonymy, and metonymy. As we remember from Saussure's theory, since the relationship between words and their referents is merely symbolic which are signs, each word derives meaning not from the real world but from its existence within a semantic field of related signs (Riemer 2010:13-15). Furthermore, within the word level, componential analysis breaks down the meaning of a word into components. For example, the components of the word 'man' would be human + adult + male. Through using these components, semanticists build grids that define the words of a particular field according to the presence or absence of a particular component. However, assuming the classification of components in sign languages would closely be the same as that of spoken languages; componential analysis is not included in this research.

Within the sentence level, semanticists are mainly concerned with the truth value of linguistic expressions. At this level, linguists frequently distinguish between analytic and synthetic truth. A synthetically true statement is true because it is an accurate representation of reality. An analytically true statement is true because it follows from the meaning relations within the sentence (Hurford,

2007:16). However, this is not the main purpose of this research; instead, it mainly focused on the level of words (signs in sign language), especially the lexical ones.

As Leech (1974: 89-90) notes, semantics can be used both theoretically and practically in different academic disciplines such as communication, semiotics, philosophy, psycholinguists, sociolinguistics, applied linguistics, etc. In this regard, the main focus always lies remains on the meaning. However, the present research intends to study the lexical meaning from the linguistic point of view. It rather deals with semantics in sign linguistics in sign language from the point of view of linguistic in general; it, especially, focuses on how lexicon in EthSL can relate and correlate with each other to form semantically related signs. This, in turn, leads the study to investigate how the aforementioned signs are tacked in the EthSL dictionary and their implications for Dictionary-making. Therefore, depending on its overall approach, this research can be considered a linguistic study that deals with the meaning concepts of the EthSL signs, particularly of the practices of semantics.

## **A Brief History of the Ethiopian Sign Language**

Sign language is visual-gestural language expressed by movements of hands, eyes, face, mouth, head, and body to communicate. Since William C. Stokoe's pioneering work in the 1960s, linguists have recognized natural sign languages as autonomous linguistic systems, structurally independent from the spoken languages with which they may coexist in any given community (Stokoe, Casterline, and Cronberg, 1965). This recognition has brought about extensive research into different aspects of the American Sign Language (ASL) structure that eventually paved the way for the recognition of other sign languages.

Ethiopian Sign Language (EthSL) is a visual language that is used by deaf people in Ethiopia. Ethnologists note that in Ethiopia "several sign languages are used in different schools for the deaf community is a group of people who live in a particular location, share the common goals of its members in various ways, and work toward achieving these goals. A deaf community may include persons who are not themselves Deaf, but who actively support the goals of the community and work with Deaf people to achieve them (LeMaster 1990: 23) deaf" (Lewis 2009); this might happen due to the different varieties of EthSL that are used by deaf communities in different regions of Ethiopia. According to the Ethiopian Sign Language Dictionary (ENAD 2008: ii), "In Ethiopia, sign language began to be used formally after the 1960s in connection with the appearance of American and Nordic missionaries who opened schools for the deaf in Ethiopia." Thus, regarding its inception, Ethiopian

Sign Language has some historical connection with American Sign Language (ASL). Furthermore, evidence shows that there was a deaf school that was opened by missionaries from the Nordic countries mainly from Sweden at Karen in Eritrea, the then-northern province of Ethiopia. They used the sign language that was in use in the Nordic countries such as Finnish Sign Language and Swedish Sign Language. When deaf students graduated from the Karen School, they started coming to Addis Ababa in search of employment; consequently, deaf people from different schools engaged in swapping signs to communicate (Birtat, 2008:49).

Currently, there are only two EthSL dictionaries which were published by the Ethiopian National Association of the Deaf (ENAD) decades ago. The first one entitled 'Ha Metshaf' which consists of 1009 signs was published in 1976 in collaboration with the two deaf schools, Mekannisa and Alpha, and the Ministry of Education. The Finnish Association for the Deaf, Deaf schools in Ethiopia, and the Ministry of Labour and Social Affairs collaborated with ENAD when it published the second EthSL dictionary that consists of 1321 signs in 2008. The publication of these two dictionaries paved the way not only for the development of EthSL but also contributed much to the enhancements of research on Ethiopian Sign Language. Most of the studies conducted on EthSL focused on aspects of phonology (Teshay, 2012), morphology (Kidane 2013), and sociolinguistics (Eyasu 2017).

However, the lexical semantics of EthSL has hardly been researched. Linguists such as Fromkin (1992) note that all sign languages used in deaf communities have structural constraints, related forms and meanings derived through rules, and contain equivalent kinds of sub-lexical units, just like oral languages. This suggests a need for exploring semantic structure in general and lexical semantics in particular in sign language studies. This study focuses on the lexical-semantic related signs in EthSL, which falls under lexical semantics.

Furthermore, much of the research on lexical semantics and its relation to the dictionary compilation has dominantly focused on spoken languages. Hence, even if attempts have been made to review studies on sign language, views and counter views included under the related literature of this study are largely taken from studies on spoken language. Most studies in sign languages consider spoken language research as their basis despite modality differences between them.

Concerning linguistics and semantic relation to this research, much of the recent literature in lexicography has consciously and explicitly related itself to linguistic theories in general and theories of lexical semantics in particular. Herewith the contribution and relevance of linguistic studies to

dictionary-making, we can only pick out several insights that have proven useful as constituting a framework for analyzing and presenting the semantics of lexical signs of the EthSL.

To sum up, while dealing with the different features of EthSL, the researcher has eventually learned that various researchers have given due focus to phonology, morphology, and sociolinguistics aspects. However, to the best knowledge of the researcher, there is no significant work done on the semantics of EthSL. Thus, the need to fill this gap is the first motivating factor that makes the researcher conduct the present study. The second motivation comes from the application of semantics to dictionary-making. While many dictionaries do provide basic phonological, syntactic, and etymological information, the primary function of a dictionary is to provide lexical meanings. It thus makes sense that an evaluation of dictionary-making should take a semantic perspective for the study.

### **1.1. Statement of the Problem**

The basic features and theoretical assumptions about sign language in general and EthSL, in particular, are implied in the literature. Though numerous studies have been conducted on different sign languages throughout the globe, it seems that EthSL has not gotten the intended scholars it deserves so far. Over the past decade, even the attempted research on EthSL mainly focused on its features of morphology, syntax, phonology, and sociolinguistics. Contrary to this fact, even if EthSL is being used widely among the Deaf communities in Ethiopia, one might hardly find research on its lexical-semantic or lexicographic aspects.

According to many researchers, the most important problem identified with dictionaries of signed languages has been the tendency to take the spoken language of the surrounding community as the basis for a dictionary of the signed language (Brien & Turner 1994; Brien & Brennan 1995; Stokoe 1993). Compilers of signed language dictionaries have often "...begun with a list of what they regard as core meanings and then tried to find signs which express these meanings within the particular sign language" (Brien & Brennan 1995: 314). This sort of approach has produced dictionaries that often fail to capture the lexical-semantic relatedness between lexicons on their lexical signs.

Throughout this study, it is made clear that our definition of lexical-semantic relations has important implications for sign language lexicography. Attempts have been made to show how lexical-semantic relations appear in line with understanding meaning in sign language dictionaries. Thus, the simple extension of traditional lexicographical principles on lexical-semantic relations is seen in terms of the domain of signed language lexicography. No criteria or linguistic principles are yet applied to

distinguish semantic relatedness/closeness of lexicon in sign languages. Brien & Brennan (1995:314) remark that many dictionaries of signed languages that do not adopt a fully linguistic approach not only provide incorrect information about the languages in question but also oversimplify the representation of the sign lexicon "...to an extent which is essentially distorting". This study extends to the types of dictionaries that do not address the notions of lexical semantic relatedness of lexical signs and implications will help in deciding how should account for dictionary compilers.

Thus, the knowledge of lexical-semantic relations is an essential prerequisite for compiling dictionaries of the EthSL. The language is currently used by millions of deaf people and their hearing counterparts. EthSL is also used as an instructional language in deaf schools. Therefore, this research has attempted to answer the following questions:

- How are lexical semantic relations exhibited in EthSL?
- How do the existing sign language dictionaries tackle the patterns of semantic relationships and their implications for dictionary making?

## **Objectives of the Research**

### **General Objective**

The main objective of this study is to examine the lexical-semantic properties of EthSL and to draw its implications for sign language dictionary-making.

### General Objective

Particularly, the study has the following specific objectives:

- ✓ To exhibit lexical semantic relationships involved in EthSL in some detail;
- ✓ To investigate how the existing sign language dictionaries tackle issues of lexical-semantic relations;
- ✓ To review significant implications for making a dictionary for EthSL?

## **1.2. Significance of the Research**

This study is believed to have the following contributions:

- It will contribute to a better understanding of sign language in general and EthSL in particular.
- It will give guidance in prioritizing sign language resource development in Ethiopia concerning the field of semantics.

- It will be a helpful resource for lexicography developers.
- It will also be used as teaching material in sign linguistics in higher education institutions.
- It can initiate other researchers to conduct further studies on different aspects of EthSL

## **Scope and Limitation**

The study is limited to five types of lexical-semantic relations such as polysemy, synonym, antonym, homonym, and metonym of EthSL. The aforementioned lexical-semantic relation markers are commonly studied in spoken languages in terms of their relevance for dictionary-making. The semantic relations in EthSL are carefully examined to uncover their contribution to preparing a dictionary. Addis Ababa and Hossana were only chosen as the research settings due to the shortage of time, budget, and other resources.

## **Conceptual framework**

### **Conceptual Theories to Lexical Semantic Relations**

As mentioned above, little research has been done on the lexical semantics of sign language; consequently, one might hardly find a dependable theoretical framework for lexical-semantic relations so far. In this research, conceptual theories of lexical semantics and principles developed for vocal languages have been considered. In principle, although the modality of language is quite different in vocal and signed languages, it is common to see studies on sign languages rely on vocal languages. Therefore, it is crucial to develop different theories on the notion of lexical-semantic relations. To this effect, some traditional descriptions of lexical relations will briefly be discussed following this.

There are various approaches to semantics that linguists and scholars prefer. However, structural (lexical) and generative (grammatical) semantic theories are widely discussed in different disciplines of study. Structural semantics is mainly concerned with word semantics while generative grammars often deal with sentence semantics (Lipka, 1992: 52). Lipka states that structural semantics focuses on lexical fields and paradigmatic semantic relations between words generally. Within generative grammar, two schools of thought are distinguished, namely interpretive semantics and generative semantics. The former focuses on the syntagmatic semantic relations; the second one which is largely limited to word semantics mainly deals with lexical decomposition (Lipka, 1992:53). Thus, the distinctions drawn between structural/lexical semantics and generative grammar semantic approaches are useful to specify which one of them fits this study.

The words within a domain are related to each other by lexical relations. Linguists use the term lexical relations to refer to various kinds of relationships that exist between words. The familiar lexical relations that are relevant to studying words and widely accepted by researchers include synonymy, antonymy, polysemy, homonymy, and metonymy. Besides, a lexical relation is a culturally recognized pattern of association that exists between lexical units in a language. Any lexical word can have multiple relations to another lexis within a language (Riemer 2010: 45). Thus, following this it is to mention some common definitions of the nature and applications of such kind of relations among lexica signs which can help us to identify how signs are semantically related and understood in EthSL.

The relations among lexical words can be divided into paradigmatic lexical relations and syntagmatic lexical relations based on contextual structure. Paradigmatic lexical relation involves a set of words that can be used interchangeably/substitution in a context. For example, in English, the word 'happy' can be a synonym for words such as 'joyful', 'glad' etc. Syntagmatic lexical relation refers to a group of words that can be used in a sentence (Riemer 201: 136). In this regard, words such as 'cold', 'cool', 'lukewarm', 'warm', 'hot' etc. do have lexical relations to the term 'temperature'. Besides, there are opposite (antonym) relations among words in the English language, such as: 'student' versus 'teacher', 'patient' versus 'doctor', and so on. Then, each lexical relation has an underlying structure that describes the relationship that senses within a lexical relation set have with each other (Lobner 2002). The semantic hierarchy developed by Lipska (1992) is presented with some modifications below;

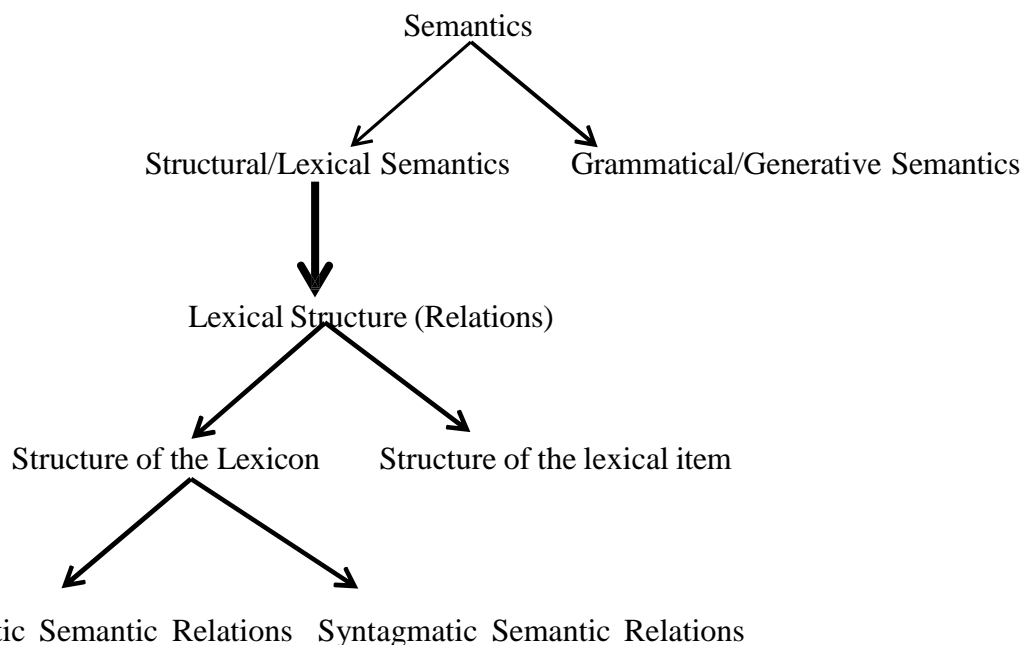


Diagram of modified semantic hierarchy

Palmer (1981:102) mentions that there are several ways to characterize the meaning of a word; for instance, whether it is animate, human, female, or adult it can be done through morphology, phonology, or even through its categorization. Furthermore, the meaning of a word can also be characterized through its lexical relations. Lexical relationships are established when a word is connected with another word; for example, the speaker of English whenever she/he comes across the term "close", reminds her/him of its antonym, "close". Similarly, many words do have significant relationships with one another. Contrary to this, one cannot find meaningful relationships between words like "chair" and "coffee".

Furthermore, meaning is the outcome of the interactions and correlations of words among each other. The meaning of a single lexical item alters when involved in different linguistic contexts. These semantic shifts, if big enough, can affect the lexical relationships between any pair of words (Palmer 1981:114). This research tried to investigate details of semantically related signs; in the study, due attention has been given to identifying how lexical signs are derived to form semantically related lexical signs and examining how these relations are depicted through the EthSL dictionary. Therefore, to set a clear context for the study, it seems important to forward definitions and concepts of some lexical/semantic relations such as polysemy, synonymy, antonymy, homonymy, and metonymy following this.

### **1.2.1. Definitional concepts of Lexical Relations**

#### **1.2.1.1. Polysemy**

Polysemy is usually normal as a semantic feature in the lexical categories: nouns, verbs, and adjectives; the more frequent a word is, the more polysemy it will develop. The term polysemy refers to multiple senses of the same phonological word or it is a word with two or more meanings (Palmer, 1979). Both in sign and spoken languages certain signs can convey more than one meaning, and a person could know by context which meaning was intended. Lyons (1977: 550) describes lexical ambiguity as two types: homonymy and polysemy. However, in this study, particular focus is given to polysemy, and the decision is made to follow Lyon's set of criteria to detect lexical polysemy. According to him, the following criteria help us detect lexical polysemy:

1. There must be a clear sense relation between the different senses of a word.
2. The polysemic senses of a word must be shown to be etymologically related to the same source word.

3. Lexical polysemy is a sense relation within a particular syntactic category, i.e. lexical polysemy does not cut across syntactic word-class boundaries.

Saeed (1997) stated that lexicographers tend to use criteria of relatedness to identify polysemy such as the speaker's intuitions and what is known about the historical development of the items.

The other is Klepousniotou's (2002) statement on the derivation of polysemy to form metaphorically motivated polysemy, metonymically motivated polysemy, and polysemy through foreign influence.

In his analysis of polysemous sense signs in Japanese Sign Language (JSL), Tomita (2016) states the previous examples of polysemy in signed languages are found in Shimada (for example CRY vs SAD in JSL) and Johnson and Schembri (for example TEA vs COFFEE in Auslan). According to him, their analysis reveals signs of phonological form that look similar as seen in the figure below. However, he explains it as "this is known as polysemy fallacy from a cognitive linguistics approach, that is the lack of principled criteria for determining what counts as a distinct sense"(2016:16). This is due to the absence of specific analysis on how those examples can be considered polysemy. He uses Evan & Tyler's theory of principled polysemy and semantic network analysis to analyze polysemy in JSL but has done it from a cognitive linguistic perspective.



Figure-1: Examples of polysemy in JSL and Auslan illustrated by Tomita (2016)

In her polysemy analysis in ASL from a morphological process approach, Naughton (2012) states that there are differences in the polysemy found in English verbs of visual perception and those in ASL; she further claims that the differences are reflected in the forms and the meanings of the two languages. To her, in English, polysemous words are phonologically the same, as in the lexeme see which has a wide array of meanings not strictly associated with visual perception if the motivation for recruiting see to express the meanings can be systematically analyzed. According to her, the modality

of ASL as a visual and spatial language facilitates the use of morphological processes to elaborate the meanings of signs. Repetition of sign movement is called reduplication which makes verbs turn into nouns (Supalla and Newport, 1978). Thus, reduplication is polysemous in the morphological process of deriving nouns from verbs in ASL (Naughton, 2001).

### **1.2.1.2. Synonymy**

The traditional way of thinking about synonymy in lexical-semantic theory is part of a specific structuralist tradition that is not unproblematic (Geeraerts 2010). From a lexical relation point of view, the assertion that synonyms are two or more words having the same or almost the same meaning is correct. Even though the general definition given to synonyms is "different words in form, but close or identical in meaning" (Şerban, 1978: 23) or "different significant (different phonetic forms) which can express almost the same significance (meaning)" (Graur, 1971), it is far from being accepted and shared by all linguists. Apresjan admits the general validity of the identical distribution criterion and the partial character of the substitution criteria "The substitution of synonyms is possible only if they are syntactically and semantically identical" (Apresjan, 1957: 87).

Expressions with the same meaning are synonymous. It does not restrict the relation of synonymy to lexemes and it makes identity, not merely similarity, of the meaning criterion of synonymy. According to Lyons (1995:61), two or more expressions are synonymous, if and only if, they satisfy the three conditions below:

1. All their meanings are identical;
2. They are synonymous in all contexts;
3. They are semantically equivalent (i.e. their meaning or meanings are identical) on all dimensions of meaning, descriptive and non-descriptive;

Meyer (2009:170) defines synonymy as a semantic relation that has been extensively studied. The true test of synonymy is substitutability: the ability of two words to be substituted for one another without a change in meaning. For instance, the example below contains the verb assist. If help is a synonymy of assist, it should be able to substitute for assist in the above example without change in meaning. There are no words that are identically the same in the meaning, if they exist, it is quite rare. If words were truly synonyms, they would need to 'be able to be substituted one for the other in any context in which their common sense is denoted with no change to truth value, communicative effect, or 'meaning' (however 'meaning' is defined)." Meyer (2009:171)

In Signed Languages, synonyms are lexical items with different phonological forms that have the same or similar meanings. Examples in Auslan would include different variants of BLUE, MOTHER, and AFTERNOON, or finger-spelled Y-E-S and N-O versus signed YES and NO. However, that true synonymy is rare. Although the descriptive meanings of the various forms of the sign BLUE are the same, their social meanings are different. For example, the variant of the sign BLUE with the 8 handshape is associated with the northern dialect, and the form with the B handshape is used elsewhere in the country and Australasian Signed English. Similarly, the two forms of the sign MOTHER appear to have differences in affective and social meaning: the form on the forehead appears to be more widely used in the southern dialect of Auslan than the two-handed sign, and some signers prefer it for use with small children (i.e., as the Auslan equivalent of 'mummy').

Finger spelled Y-E-S and the sign YES may also reflect differences in social meaning. Lexical items are used more often by older signers (Schembri & Johnston, in press 1999). Similarly, in ASL signers will often move between fingerspelled and signed lexical items for particular communicative effects (Valli et al., 2005). A signer may, for example, fingerspell N-O as a form of emphasis rather than using the sign NO. Thus the expressive meaning of the two forms is different. Konard (2013) also describes synonymous signs as different forms and different underlying images. Synonymous signs in German Sign Language (DGS) are signs with the same meaning.

### **1.2.1.3. Antonymy**

In traditional terms, antonyms are words with opposite meanings (Saeed, 1997). Antonymy, or linguistic opposition, is considered by many researchers as an important principle governing a language's internal structure, at least within its lexical store (Lyon, 1977; Richards, 1967).

Lyons (1977) also defines "antonym" as words that are opposite in meaning and "antonymy" as the oppositeness between words. For example, "buy" and "sell" are a pair of antonyms, and the relation between these two words is termed an antonym. Furthermore, according to Leech (1981) while antonymy refers to the opposite meaning relation between the words, antonym stands for a word of opposite meaning.

Justeson and Katz (1991) also refer to antonymy as a lexical relation, "specific to words rather than concepts." The definition of antonymy must be lexical as well as semantic. Antonyms need to have not only "oppositeness of meaning", but also need to consist of a strong, well-established lexical relationship with one another (Jackson, 1988).

Finally, based on her understanding of its nature Egan (1968) defined antonymy as a word that is opposed in meaning to another word; it is equal in breadth or range of application, that is, negates or nullifies every single one of its implications. This definition shows clearly what makes two words antonyms. The antonym pairs are equal in breadth or range of application but opposed in meaning. The words that contrast in meaning might not be antonyms because they could be different in their breadth or range of application. This point is taken into account to determine antonyms in this study.

In sign languages, antonymy occurs when two lexical items with opposite meanings are referred to as antonyms (Johnston and Schembri 2007). For example, the English words versus SMALL and the Auslan signs TALL versus SHORT are antonyms. Some antonyms in Auslan have related forms, such as WANT and NOT-WANT (which differ in movement only WANT moves down the chest while NOT-WANT moves upwards), and HAVE and NOT-HAVE (which differ in the type of movement used, HAVE begins with an open handshape while the reverse is true of NOT-HAVE)

#### **1.2.1.4. Homonymy**

Homonymy is the kind of lexical relations between words that have the same form but with different meanings. It means that the words can have the same phonological sound graphical shape, or both. Homonyms can be divided into three categories, which are: homophones, homographs, and proper homonyms (Palmer, 1982: 69-70).

Homophones include those lexical words that have the same phonological form, such as: 'sight' and 'site' in the English language. Homophones have the same sounds and pronunciation, but they are spelled differently and they do have different meanings; for instance, here and hear, be and bee, too and two, etc. are homophones.

Homographs are lexicons that have the same graphical form, like: 'lead' which can mean 'leash' or 'metal'. Homographs are written in the same spelling, but with different pronunciations and different meanings; lead and lead, wind and wind, tear and tear, etc. can be considered as homographs.

Furthermore, other homonyms include both homophones and homographs, such as: 'mail' which are called proper homonyms. Lexical words that belong to such types are similar in both sound and look; for example, 'bank' can stand for a slope as well as a place for money. They have the same spelling and pronunciation but with different lexical meanings.

In sign languages, homonyms are unrelated meanings of the same phonological form. According to Johnston and Schembri (2007), in sign language including Auslan, homonymy can also be found in lexicalized finger-spelled signs. For them, often the reduction of fully finger-spelled items to a single manual letter sign can create homonymy. For example, MONTH, MINUTE, and METER (- M-); INFECTION and INSURANCE(-I-). Normally, homonymy is not an issue in sign language.

#### **1.2.1.5. Metonymy**

Metonymy is another well-known way of making meanings by using a lexical word to work as a part to stand for something as a whole. It "has primarily a referential function in that it allows us to use one entity to stand for another" (Lakoff and Johnson 1980:35). For them the expression 'I recently bought a Van Gogh' is metonymic in that the painter's name is used to refer to his paintings. The expression of reality can be done by using a metonym. One of the reasons that make metonyms effective tools to represent reality is that they work as indexical. In other words, they become a representative part of the whole reality. Nonetheless, it should be noted that metonyms do not perform in the same way as natural indexes do, as they are arbitrarily working. Thus, the metonym helps in showing the message as a natural index which invites the reader to connote the message as a reality (Riemer 2010: 246).

It is clear that it is impossible to interpret a sentence literally to understand it; instead, we are not implying that an actual sandwich is waiting to get its bill. This way of interpretation results in an anomaly. We will understand it better to mean that the person who ordered the ham sandwich is waiting for his bill. Thus, the meaning of the metonymic concept here depends on the contextual situation (Hurford et al,2007: 338-40).

Besides, the metonymic relations between entities are principled. That is to say, they are not arbitrary. To realize this principality, let's consider this example; when we use a lexical noun like 'Watergate' instead of saying 'the place for the event' to indicate a geographical place in which the event is going to happen, can be principal and not arbitrary. Therefore, it can be proved that metonymies are highly structured concepts and they are well organized. It means that metonymy is concerned with our personal and emotional attitudes and experiences (Riemer 2010: 252).

In sign languages, metonymy maps entities within the same domain. According to Lakoff and Johnson (1980:35), through metonymy, we can choose different aspects of a referent depending on our focus.

ASL uses this process in signs for various animals. Therefore, the sign for rabbits focuses on the ears, elephant on the trunk, cat on the whiskers, owl on the eyes, etc. These are all related to individual physical features associated with the animals; in most cases, they are significantly salient (Naughton, 2001: 175). She further states that the type of metonymic expression is THE PART FOR THE WHOLE and was the most common in her data.

## **CHAPTER TWO**

### **REVIEW OF RELATED LITERATURE**

#### **2. Introduction**

Much of the research on lexical semantics and its relation to the dictionary compilation has dominantly focused on spoken languages. Hence, views and counter views presented below are largely taken from spoken language; some evidences taken from studies on sign languages are also reviewed. Most studies in sign languages consider spoken language researches as their basis in spite of their modality differences among them. Due focus is mainly given to (sign) lexical-semantic relations and the function of semantics in compiling dictionary.

#### **2.1. The Linguistics of Sign Languages**

This section shall give a general overview of the linguistics of sign language and lexical semantics. Sign language linguistic description is a crucial prerequisite that provides important information for viewers on sign language studies. Indeed, phonology, morphology and syntactic structures of sign language are overviewed and discussed depending on previous studies below.

##### **2.1.1. Phonology**

Phonology primarily means the study of the sound system of a language. Brentari (2002:59) defines sign language phonology as the level of grammatical analysis where primitive structural units without meaning are combined to create an infinite number of meaningful utterances. Brentari's definition implies that the parts of the body do not always give a clue to the meaning of the sign. This meaning is true for arbitrary signs but not for iconically motivated signs where the place, the movement, the shape of the hand and the orientation sometimes indicate the meaning of the sign. Phonology emerges in a sign language when properties, even those with iconic origins, take on conventionalized distributions, which are not predictable from their iconic forms (Brentari, 2001:18). The aspects of sign language phonology include the following:

##### **2.1.2. The articulatory parameters**

This refers to the aspects that come into play in the production of the signs. There are two forms of signing. We have the manual and the nonmanual forms of signing. The manual form relies on the hands while the nonmanual form relies on facial expression, mouthings, clicks, etc. The following are the articulatory parameters:

1. The hand form or hand shape refers to the acceptable hand configuration in signing. A phonological analysis of the hand form is that since sign language does not rely on sounds, the hand form could refer to the shape of the sounds and words.
2. Place or location is another articulatory parameter in sign language phonology. In phonology, the place of articulation refers to the place where the active and passive articulators interact to produce a sound. According to Brentari (1998:67), the face, arms and torso can be both active and passive articulators in sign language.
3. The orientation in sign language has to do with the direction of the palm of the dominant hand in signing.
4. The movement refers to how the dominant or the non-dominant hand (or both) moves/move to create a sign. The movement in phonological terms is the structure that is formed by the dominant and the non-dominant hands.

### **2.1.3. Non-manual markers**

The non-manual markers in sign language rely on facial expression and the position of the body. These go a long way to add meaning to the word. Every part of the human face is necessary for signing and sign language has a grammar of the face (Sandler 2010:10). The non-manual markers in sign languages include tilting of the head, shrugging of the shoulders, eyebrow raising, head nod, etc. In phonological terms, this can be related to the concept of prosody. Prosody refers to linguistic elements above the segment and these include intonation, stress, tone, pitch-accent, etc. Other phonological realizations in sign languages are minimal pairs and free variation. Minimal pairs in sign languages are based on the differences in the articulatory parameters. Free variation is a phenomenon of phonological doublets in which one word happens to have two different phonemic forms.

### **2.1.4. Morphology**

Morphology refers to identification, analysis and description of the structure of a given language's morphemes and other linguistics units. Like spoken language, sign languages also have derivational and inflectional morphology. The derivational morphology creates new words while the inflectional morphology adds grammatical information to the units that already exist (Valli et al, 2011:59). Sign language morphology has simultaneous and sequential morphological structures. With the simultaneous morphological structure of sign languages, grammatical features are realized by altering the direction, rhythm or path of the base sign and not by sequentially adding

new phonological segments to the word (Aronoff et al., 2005:309). In sign languages, some of the simultaneous morphological segments include classifiers and verb agreement. The sequential morphological structure of sign language morphology deals with adding an affix to the beginning or end of the base sign. Affixation and reduplication are seen as sequential morphological features in sign language. Compounding as a morphological feature in sign language can either be simultaneous or sequential.

### **2.1.5. Syntax**

According to Sandlar (2010:8), as in other domains of linguistic investigation, the syntax of sign languages displays a large number of characteristics found universally in spoken languages. This characteristic includes recursion, that is, the potential to repeatedly apply the same rule to create sentences of ever-increasing complexity.

## **2.2. Lexical Signs and Lexicalization in Sign Language**

Johnston and Schembri (1999) define sign as a relatively stable and identifiable visual-gestural act with an associated meaning which is reproduced with consistency by native signers; consequently, particular agreed values can be given for handshape, orientation, location and movement (including lack of movement). Signs may also include non-manual features (such as a particular facial expression, mouth pattern, or movement of the head and/or trunk). According to them the component aspects of handshape, orientation, location and movement (as well as non-manual features) are often individually meaningful in sign languages. Indeed, they argue that these componential aspects both individually and in various combinations, are best thought of as being simultaneously phonemes and morphemes and refer to these component aspects as 'phonomorphemes' throughout their study. By this, they simply mean that the minimal identifiable emic units of the language handshape, location, orientation, movement and non-manual features are the substantive building blocks and are themselves meaningful.

Johnston and Schembri (1999) define lexeme in sign language as a sign that has a clearly identifiable and replicable citation form; it should also be regularly and strongly associated with a meaning which is unpredictable and/or somewhat more specific than the sign's componential meaning potential, even when cited out of context, and/or quite unrelated to its componential meaning potential (i.e., lexemes may have arbitrary links between form and meaning). That is to say, a lexeme is a sign that achieves its meaning through the second level of conventionalization.

To them, lexemes may have widely divergent links between form and meaning across either different dialects of a signed language or different signed languages.

According to Johnston and Scherbri (1999) any instantiation of sign components (i.e. any sign) can similarly be lexicalized even if they are motivated in some way. Consider the following examples of lexicalized signs mentioned by Johnston and Scherbri (1999); they practically exploit tracing, handling, performing, numerical, alphabetic and semantic handshapes respectively. In all of these examples, the general potential componential sense of the sign (in lower case at the bottom of the example) has given way to a specific, though often related, lexicalization.

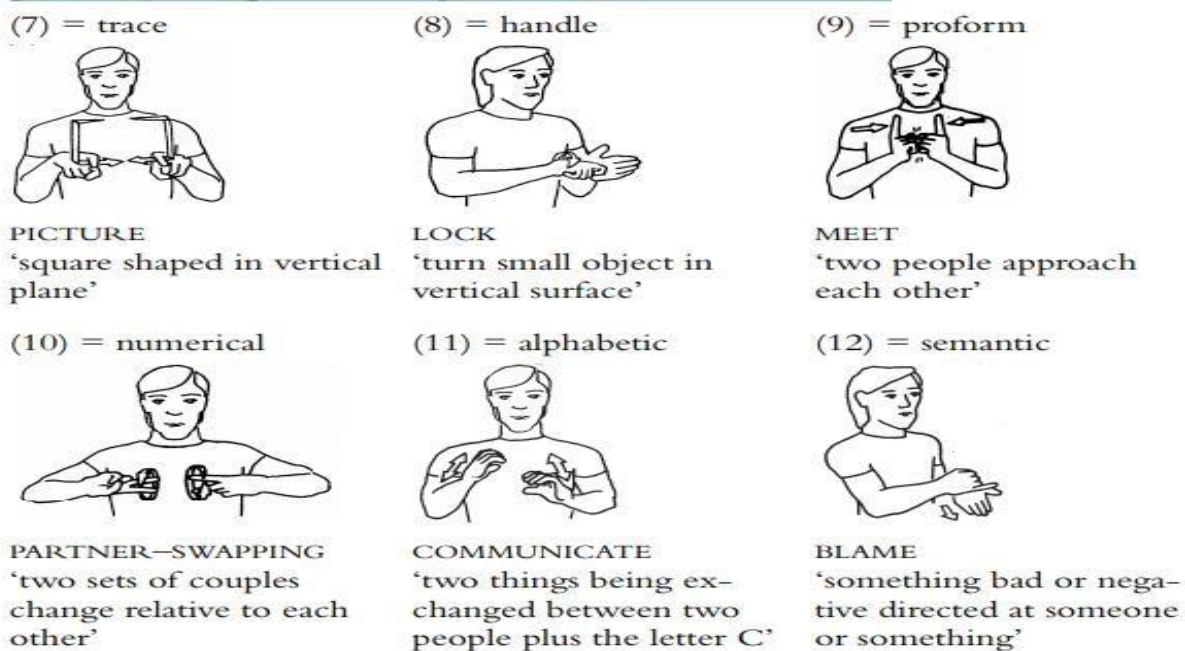


Figure: 2. Lexicalization of signs in Auslan (Johnston and Schembri, 1999)

The meaning of a lexeme is thus not necessarily predictable from the meaning of its components (though it may actually be consistent with them), nor is the meaning of a lexeme always motivated since it may bear no apparent relation to its components. In lexemes, the component aspects of the sign are, thus, often more like phonemes (or distinctive features) than morphemes. Nonetheless, most sign forms which are lexicalized may still be used or performed in a context in such a way as to foreground the meaning potential of one or more of the component (Johnston and Schembri, 1999).

Lexicalization is the permanent inclusion of a sign into the vocabulary of the language after repeated use over an extended period. Many “new” signs crop up in sign conversations, but not all become lexicalized. Lexicalization of signs as a process reflects the many social and cultural forces at work in a signing community (Puson and Siloterio, 2006:4).

Sign languages are produced with two identical articulators, the two hands. Some lexical signs are one-handed and some are two-handed. Since there are two articulators, signed languages make deletion, addition or substitution of one of the two articulators (Lucas and Valli, 1996).

Two-handed signs could be produced with one hand or the signer’s thigh substituted for the non-dominant hand. A one-handed sign could also be produced with two hands in symmetry in handshape and movement (ibid).

In addition to handedness, each lexical sign is composed of constituent parameters: hand-shape, the location at which the sign is produced, the palm orientation, movement, and facial expressions. These parameters are linguistically contrastive units analogous to phonemes or distinctive features in spoken languages. Spoken phonemes are produced linearly, but sign parameters are produced simultaneously.

According to Johnston and Schembri (2007), in Auslan, as in other signed languages, evidence can be found of distinctive changes in the form and meaning of each compound as a result of the process of lexicalization.

## **2.3. Fundamental Concepts in Semantics**

### **2.3.1. Semantics and Theories of Semantics**

Semantics is the study of the meaning of words or the systematic study of meaning. The study of meaning can be undertaken in various ways. Speaker of a language has an implicit knowledge about what is meaningful in their language and it easy to show this. Imagination is a part of semantic that focuses on studying a language (Kreidler 1995). The Semantic theory attributes to each expression in the language through which the semantic properties and relations are viewed. In this section attempts will be made to discuss the definitions of semantics that have been forwarded by various linguists.

Semantics is the study of meaning communicated through language (Saeed, 1997:3). It is a major branch of linguistics devoted to the study of meaning in language (Crystal, 1980:315). Semantics

is the study of word meanings, and it focuses on how words are related to one another in our mental lexicon (Gleason, 1998:13). It is concerned with what the sentence and other linguistic objects express, not with the arrangements of their syntactic parts or their pronunciation (Katz, 1972:1). Finally, semantics can be studied from the perspective of different disciplines. This study is focused on lexical semantics in the context of applied linguistics-lexicography.

Semantics is the knowledge (from the point of view of the individual who speaks and hears others speaking), or description (from a linguistic point of view) of meaningful units' words and meaningful combinations of words like sentences (Kreidler 1995:7).

The sound patterns of language are studied at the level of phonology and the organization of words and sentences is studied at the level of morphology and syntax. These are in turn organized in such a way that we can convey meaningful messages or receive and understand messages. Semantics is that level of linguistic analysis where meaning is analyzed (Naeem 2012). What all these definitions have in common is that semantics is the systematic study of meaning and linguistic semantics is the study of how language organizes and expresses meanings.

### **2.3.2. Lexical and Grammatical Meanings**

Naeem (2012) suggests that in linguistics linguists have to take into account at least two different types of meanings: lexical meaning and grammatical meaning. Full words have some kind of intrinsic meaning. They refer to objects, actions and qualities that can be identified in the external world, such as table, banana, sleep, eat, red, etc. Such words are said to have lexical meaning. Empty words have little or no intrinsic meaning. They exist because of their grammatical function in the sentence and are used to join items, or to indicate alternative, or sometimes indicate possession. These words have grammatical meanings. Grammatical meaning refers mainly to the meaning of grammatical items such as *did*, *which*, *-ed*. Grammatical meaning may also cover notions such as 'subject' and 'object', as well as sentence types such as 'interrogative' and 'imperative'. Because of its complexity, grammatical meaning is extremely difficult to study. No theory of semantics has been able to handle it yet. But the study of lexical meaning is more manageable (Naeem, 2012).

There are two types of lexical or word meaning: the open-class lexical items, such as nouns, verbs, adjectives and adverbs, and the closed class items such as prepositions, conjunctions and determiners. The open class items have independent meanings, which are defined in the dictionary.

The closed class items have meaning only in relation to other words in a sentence; this is called grammatical meaning, which can be understood from a consideration of the structure of the sentence and its relation with other sentences (Naeem 2012). For example, in the sentence ‘The tiger killed the elephant’, there are three open class items: *tiger*, *kill*, *elephant*. Of these, two are nouns and one is a verb. There is one closed class term? ‘the’, which occurs before each noun. It has no independent reference of its own and can have meaning only when placed before the nouns. For example, *I saw him near the bank* (Ibid, 2012). But there is lexical ambiguity since the item ‘bank’ can mean (a) the financial institution or (b) the bank of a river.

However, in the case of: ‘The parents of the bride and the groom were waiting’ there is grammatical ambiguity as the sentence structure can be interpreted in two ways: (a) the two separate noun phrases being ‘the parents of the bride’, and ‘the groom’; or (b) the single noun phrase ‘the parents’ within which there is the prepositional phrase ‘of the bride and the groom’ containing two nouns. The first type of coordination gives us the meaning that the people who were waiting were the parents of the bride and the groom himself. The second type of coordination gives us the meaning that the people who were waiting were the parents of the bride and the parents of the groom (Naeem, 2012).

According to Naeem (2012), the meaning of a sentence is the product of both lexical and grammatical meanings. This becomes clear if we compare a pair of sentences such as the following:

- (a) The dog bit the postman.
- (b) The postman bit the dog.

These two sentences differ in meaning. But the difference in meaning is not occurred due to the difference in the meaning of the lexical items ‘postman’ and ‘dog’, but in the grammatical relationships between the two. In one case ‘dog’ is the subject and ‘postman’ is the object, and in the other case the grammatical roles are reversed. There is also the relationship of these nouns with the verb ‘bit’. In the first sentence, the action is performed by the dog, which conforms to our knowledge about dogs, but in the second sentence, the action is performed by the postman which does not match with our knowledge about what postmen do, so there is a sense of incongruity about the second sentence. Only in some exceptional circumstances could we expect it to be comprehensible.

Johanson and Schembri (2007) have addressed these notions in context of sign languages when they discuss the meaning of signs; it is useful to make a distinction between lexical meaning and grammatical meaning (Matthews, 1997). Lexical meaning is primarily expressed in content words and grammatical meaning in function words. Content words include nouns, verbs, adjectives and adverbs. All content words, such as the signs CAT, RUN, YELLOW and QUICK, have descriptive meaning in that they refer to objects, events, or states of affairs in the world. They may also have social and affective meanings. Function words, on the other hand, include determiners, prepositions and conjunctions. Many function words, such as the signs BUT and I-F, have no descriptive or expressive meaning at all and appear to exist merely as part of particular grammatical constructions. Some function words, like IN or ON, do have some degree of descriptive meaning (i.e., they describe a spatial relationship between objects) and often may be used alone, but their meaning may sometimes be most clear at the phrase or sentence level and not at the level of the individual word (e.g., the meaning of the sign IN may be most clear in a phrase like CAT IN HOUSE PT+rt) (Johnston and Schembri, 2007).

This study is focused on lexical semantics which also deals with EthSL dictionary entries of signs rather than sentential meanings. Below we shall discuss on lexical semantics that deals with lexical meanings of words/signs.

## **2.4. Lexical Semantics**

Murphy (2003) states that most lexical-semantic relations have some kinds of similarity and contrast elements; for example, synonyms are similar in meanings, but differences in lexical forms and antonyms have a contrasting positions on the same dimensions. The term lexical relation is ambiguous in that it could refer to relations among words or relations of lexical items within the mental lexical items (Murphy,2003). According to him, the branch of semantics that deals with word meanings is called lexical semantics.

### **2.4.1. Lexical vs. Conceptual-Semantic Relations**

According to Taylor (2014), there are many ways to relate words to one another. One broad distinction is made between lexical relations among word forms, and conceptual-semantic relations among concepts. Lexical relation can be synonymy within word forms such as *car*, *auto*, *motor car*, and *automobile*. The other is antonymy which holds between specific word pairs. Thus, *big* and *little* are in an antonymic relation, as are *large* and *small*. While *big* and *large* and *little* and *small*

are synonyms, the strong relationships among the word-specific pairs are reflected in textual co-occurrences (Justeson and Katz, 1995).

An example of a conceptual-semantic relation is meronymy, the part-whole relation. It applies equally to wheel-car and a wheel-automobile, as car and automobile are synonyms and thus express the same concept. Similarly, both vehicle-car and vehicle-automobile are related by hyponymy, the super ordinate relation. Neither the part-whole relation nor hyponymy is sensitive to specific word forms (Ibid, 1995).

Although we distinguish lexical relations from conceptual relations, a given lexical relation implies a semantic-conceptual relation. Thus, the fact that only *large* and *small* but not large and little share the same distributions and strongly evoke each other does not negate the fact that large and little (and big and small) are semantic opposites (Taylor, 2014).

#### **2.4.2. Lexical Relations**

Practically, this study mainly focus on the dipictions of lexical relations in EthSL. The words within a domain are related to each other by lexical relations. Linguists use the term lexical relations to refer to various kinds of relationships that exist between words. There are two basic types of lexical relations. The first type is known as collocates where words are frequently used together in a sentence. For instance, we often use the words bird and fly in the same sentence. Bird and fly are related by the lexical relation agent: typical action. The second type is known as paradigm forms and includes relations such as synonyms, antonyms, and generic-specific relation. The words big and large are close synonyms. Kind and unkind are antonyms. Bird is a generic term that includes the more specific term chicken (Kreidler, 1996).

According to Finegan (2004), lexical semantics focuses on linguistic meaning. She further claims that a lexical item or lexical unit is a lexical entry that is part of a word or a chain of words that form the basic elements of a language's lexicon or vocabulary'. Lexical items can be generally understood to convey a single meaning, much as a lexeme such as *bar*, *ate* and *no* which are limited to single words. Lexical semantics deals with a language's lexicon or the collection of words in a language. It is concerned with individual words (unlike compositional semantics, which is concerned with meanings of sentences.)

Of the many ways that lexical semantics can be studied, we'll look in general terms at the meaning relationships that word meanings have with one another and the semantic features that help to differentiate similar words. Lexical semantics focuses on meanings in isolation, that is, without attention to their contribution to reference or truth conditions (Hurley, 1996). There are many ways for two words to be related. We've already seen several ways:

- morphologically related: lift/lifted which both share the same stem
- syntactically related - write/paint both verbs
- phonologically related - night/knight, which shares the same pronunciation.

Another way in which two words can be related is vague. For instance, the word *pot* is intuitively more closely related semantically to the word *pan* than it is so to the word *floor*. The reason, is that both *pot* and *pan* have meanings that involved the act of cooking, while the floor does not in any obvious way (Hurley, 1996).

### **2.4.3. Types of Lexical Relations**

“Lexical relations are relationships of the meanings of the words to other words,” (Bolinger in Palmer,1979: 94-100). Lyons (1977:16) also states that “Meaning property is one of several features or components which together can be said to make up the meanings of a word or utterance.” All of the lexical relations and meaning properties can be differentiated by looking at all the words or sentences. There are many kinds of lexical/semantic relations that can be distinguished by their use in any text or context. The kinds of lexical relations involved in this study are polysemy, homonymy, synonymy and antonym. Hurley (1996) has also explained some kinds of lexical relationships as follows:

#### **2.4.3.1. Polysemy**

This term refers not only to different words that have different meanings, but also to the same words that may have a set of different meanings. This is called polysemy and such a word is called polysemic (Palmer,1979). Palmer has given some examples: There is a word “flight” and the dictionary defines it in many ways: passing through the air, power of flying, air journey, unit of the air force, volley, digression, series of steps(Palmer,1979).

Polysemy is "a term used in semantic analysis to refer to a lexical item which has a range of different meanings," (Crystal 1991:267). Johnson (1987:193) and Lakoff (1987:316) emphasize that the crucial factor in polysemy is not simply that a lexical item has multiple meanings, but that

the meanings are systematically related. The semantic variants of polysemic expressions derive from the same etymological root (Bussmann 1996:371), thus distinguishing polysemy from homonymy. These related meanings form a category in which each member bears a family resemblance to the others, and, using a cognitive perspective, the conceptual connections between the members are motivated, but not predictable. An example given by Lakoff (1987:316) is the “conventional system of projecting body-part concepts onto objects”. In English, the body-part foot is used to refer to the bottom of a bed, the bottom of a hill or mountain, notes appearing at the bottom of a page, etc. Considering the definition of polysemy as a situation in which a lexical item has a range of systematically related meanings that derive from the same etymological root.

“The term polysemy refers to multiple senses of the same phonological word. It is a word with two or more meanings,” (Yule 1996). For example, let us see the occurrence of polysemy with the term **foot** in: *He hurt his foot and she stood at the foot of the stairs*. A practical problem is that if one form has several meanings, it is not always clear as it happened in polysemy in which a word has several meanings. E.g. in a dictionary, the word “*flight*” is a single polysemic word but it recognizes no less than four words for mail such as armour, post, halfpenny, payment and spot. And the important thing is that they are not shown as different meanings of the same word. And the polysemic item is treated as a single entry (Palmer, 1979 : 94-100).

According to Palmer (1979), differentiation between the terms primary/secondary main/derived meanings is connected with two approaches to polysemy: diachronic and synchronic. If viewed diachronically polysemy, is understood as the growth and development (or change) in the semantic structure of the word. The meaning of the word table in Old English was the meaning "a flat slab of stone or wood". It was its primary meaning; others were secondary and appeared later. They had been derived from the primary meaning.

Palmer (1979) describes synchronical polysemy as:

*...as the coexistence of various meanings of the same word at a certain historical period of the development of the English language. In that case, the problem of interrelation and interdependence of individual meanings making up the semantic structure of the word must be investigated from different points of view, that of main/derived, central /peripheral meanings. An objective criterion of determining the main or central meaning is the frequency of its occurrence in speech. Thus, the main meaning of the word table in Modern English is a piece of furniture.*

In sign languages (and in spoken language too), certain signs can convey more than one meaning, and a person would know by context which meaning was intended. For example, *foot* in *He hurt his foot* (as part of the body) and *She stood at the foot of the stairs* (as part of stairs) (Palmer, 1979). Words or signs that have more than one meaning are known as either "homonyms" or "polysemic words/signs. Homonyms have unrelated meanings that map onto the same phonological form. For example, flour/flower, break/brake and read/red.

According to Riemer (2010: 161), linguists have adopted different tests to distinguish polysemy from monosemy as well as homonymy, but they did not find any reliable method. Riemer (2010:162) has also suggested that contrasting polysemy and monosemy is a false dichotomy, which seems convincing. However, it is vital to discuss these three contrasting terms to distinguish polysemy from monosemy and homonymy. Polysemy can be defined as the possession by a single phonological form of several conceptually related meanings. The opposite of polysemy is monosemy (Greek 'single meaning'): a word is monosemous if it contains only a single meaning. Many technical terms are monosemous: orrery, for example, has no other recorded meaning in English than 'clockwork model of the solar system', and appendectomy (or appendicectomy) means only 'excision of the appendix' (Remier, 2010:162). Remier (2010:162) also states that polysemy in contrast with homonymy (Greek 'same name'), the situation where a single phonological form possesses unrelated meanings. A good example of a homonym is provided by the English verb pronounced /welv/, and spelt as wave or waive, depending on the meaning. The different spellings of this word are a clue to the fact that we are dealing with two historically different verbs whose pronunciations happen to have converged.

Aprésjan in Klepousniotou (2002) has divided polysemy into two types: metaphorical polysemy, where an analogy is assumed to hold between the sense of the word, and metonymic polysemy, where both basic and literal senses are the same.

Metonymically, for example, the word *chicken* possesses the basic sense that refers to the animal and a secondary sense that stands for the meat of that animal. Therefore, it is widely believed that the meaning of polysemous words has been extended through metaphor and metonymy to acquire new meanings through active language users. Palmer (1976) discusses the striking example of metaphors that are found when talking about the parts of the body such as the hand, foot, face, leg, and tongue and explains how the speaker makes this choice based on intuition and context, as one

might speak of the hands and face of a clock or the foot of the bed or the mountain. Interestingly, only some of these meanings can be transferred to the relevant object as the clock has no legs and the bed has no hands. Therefore, in the case of polysemy, a word has a literal meaning and a transferred meaning that has been extended through the use of metaphor.

The words or signs in language we use are combined to create utterances that convey meaning. Pustejovsky (1996) states that many words in a language have more than one meaning and property usually called polysemy. He referred to this lexical polysemy as a systematic polysemy. Systematic polysemy is defined by a set of word senses that are related in systematic and predictable ways. If we are to identify the semantics of lexical items, we have to check for the eventuality of any given word having multiple interpretations.

To conclude, no widely accepted and acclaimed theory and criteria were developed for polysemy in sign languages. However, some sign linguists mentioned above are trying to investigate polysemy by adopting some definitional concepts of polysemy in spoken language. We shall use some definitional concepts and criteria used in a spoken language like Lyons criteria and some traditional definitional concepts used in sign language polysemy to distinguish from others.

In sign languages, polysemy is used to describe the same sign having two or multiple related meanings. When two signs have the same form but different, unrelated meanings, they are defined as homonyms. However, if they have related meanings, they are called polysemous.

Казань (2010) states the term "context" in a way that we understand the minimal stretch of speech determining each meaning of the word. The context individualizes the meanings, brings them out. The two main types of linguistic contexts which serve to determine individual meanings of words are the lexical context and the grammatical context. These types are differentiated depending on whether the lexical or the grammatical aspect is predominant in determining the meaning.

Казань (2010) explains both lexical and grammatical context-based meaning of English words. Lexical groups combined with the polysemantic words under consideration. The adjective heavy in isolation possesses the meaning "of great weight, weighty". When combined with the lexical group of words denoting natural phenomena like wind, storm, etc. it means "striking, following with force, abundant", e.g. heavy rain, wind, storm, etc. In combination with the words industry, arms, artillery and the like, heavy has the meaning "the larger kind of something as heavy industry, artillery

In grammatical context, it is the grammatical (mainly the syntactic) structure of the context that serves to determine various individual meanings of a polysemantic word. Consider the following examples:

- 1) I made Peter study; he made her laugh; they made him work (sing, dance, write...
- 2) My friend made a good teacher
- 3) He made a good husband.

So, linguistic (verbal) contexts comprise lexical and grammatical contexts. They are opposed to extra-linguistic contexts (non-verbal). In extra-linguistic contexts the meaning of the word is determined not only by linguistic factors but also by the actual situation in which the word is used.

#### **2.4.3.1.1. Approaches towards Polysemy**

Crossley, Salsbury and McNamara (2010) explain polysemous words have more than one related sense; for example, the word class has six related senses or possibly more, including socioeconomic class, a body of students, a course of study, a collection of things with similar qualities, a sports league ranked by quality, and elegance in dress or behaviour. Crossley, Salsbury and McNamara (2010) argue that homonyms and polysemous words are vague words that form a continuum.

Polysemous words (one core meaning with distinct related senses) are located somewhere in the middle. Falkum and Vincente (2015) state that polysemy is widespread in natural languages, affecting both function and content words, and the intended sense is easily identifiable by the speaker; however, it is being proven to be very difficult to treat theoretically and empirically. Polysemy presents researchers with inherent problems, such as the difficulty of recognizing whether a word is polysemous or not as well as identifying the number of senses a given word possesses. Another problem is to identify the primary meaning which represents the direct sense, therefore known as the dominant meaning of the word as well as telling it apart from other phenomena, for example, telling monosemy (words with only one meaning) apart from homonymy. An example of polysemy is given by Lyons and Cruse in Klepousniotou (2002), where a single lexical item represents several but different senses, such as mouth meaning both 'organ of body' and 'entrance of cave'.

In psycholinguistic theory, it is believed that only the core meaning of a word has to be stored in the mental lexicon as different specific senses could be easily derived from the core meaning of the word. This theory is supported by Nunberg in Klein and Murphy (2002), who argues for the need for separate lexical entries for different senses of a given word as all that is needed is stored in the core sense of the word, while questioning whether it is possible to determine which sense represents the core and based his argument on the common way a word's sense can be extended polysemously. For example, the most frequent relations between senses include object/substance relations, as in (a) the cotton was dying from weevils [plant].(b) the cotton of his sweater was warm against his skin [substance] and object/substance relations as in (a) the book was unbelievably tedious [content] (b) The book was bright yellow [object]. Klein and Murphy (2001) describe these senses would be derived by context as well as familiar patterns of extension, for example, new terms like movie, videotape, CD and DVD have all been derived following the same polysemic pattern as 'the book' uses in (a-b).

#### **2.4.3.1.2. Polysemy and Metaphor**

Apresjan (1974 in Klepousniotou 2001) divides polysemy into two types: metaphorical polysemy, where an analogy is assumed to hold between the sense of the word and metonymic polysemy, where both basic and literal senses are the same. Therefore, it is widely believed that the meaning of polysemous words has been extended through metaphor and metonymy to acquire new meanings through active language users. Lakoff and Johnson (2003) explain that although metaphor is often viewed as “a device of the poetic imagination and the rhetorical flourish and matter of extraordinary rather than ordinary language” they argue that metaphor is necessary for everyday use. In fact, it is an important part of everyday life, not only in language but also in thought. They further explain that we all think and act based on our conceptual system which is metaphorical in nature. However, this conceptual system is something we are not aware of, even if it governs our everyday lives, from the way we think to the way we experience the world around us through the use of language. The fact that a word with a single historical origin can have several senses (polysemy) is attributed to metaphor, as metaphorical expressions tend to extend the meaning of the word and often alter it, creating a different meaning to a given word. Lakoff and Johnson (1980:5) also state, “The essence of metaphor is understanding and experiencing one kind of thing in terms of another.”

Palmer (1976) discusses the striking example of metaphors that are found when talking about the parts of the body such as the hand, foot, face, leg and tongue and explains how the speaker makes this choice based on intuition and context, as one might speak of the hands and face of a clock or the foot of the bed or the mountain. Interestingly, only some of these meanings can be transferred to the relevant object as the clock has no legs and the bed has no hands. Therefore, in the case of polysemy, a word has a literal meaning and a transferred meaning that has been extended through the use of metaphor.

However, Palmer (1976) also argues that metaphor is fairly haphazard as meaning is not transferred in the same way between languages and presents as an example, an eye of a needle which is acceptable in English but not in French, as in this language needles simply do not have eyes but in English 'eye' possesses various meanings attributed to phenomena such as hurricanes or a water spring that do not relate to the organ of the eye but are used metaphorically and represent the metaphorical extension of a word.

The rule of transference has been observed by Leech (1971); according to him irregular forms are derived from irregular senses, representing new cases of polysemy. He discusses Orwell's oxymorons, 'War is peace', 'freedom is slavery', and 'ignorance is strength' and explains that literal interpretations are blocked by semantic violation or in this case contradiction, and this assigns a special interpretation by the invocation of an unorthodox rule of expression. He remarks that the rules of transference are a very powerful tool in language that helps to extend the meaning of a word as well as encourage the creative factor of a language.

However, these rules apply only under certain items, circumstances as well as interpretations of a given language user. Therefore, the meaning of a word, as well as the senses it represents, varies across languages and cannot be based on one language, but has to be looked at separately in order to determine whether the metaphorical meaning of a word is a representation of polysemy and whether the word's etymology can be traced to metaphor. Another interesting proposal was made by Apresjan (1974, as cited in Klepousnitou 2001) who argued that some types of metaphorically motivated polysemy are closer to homonymy, which distorts the notion of asserting whether a word is polysemous or simply a homonym based on this criterion.

#### **2.4.3.1.3. Polysemy and Metonymy**

Metonymy is explained by Lakoff and Johnson (2003) as a case where one word or a phrase is used as a referential device; one entity is used to stand for another with its primary function being providing an understanding. For example, “We need a couple of strong bodies for our team (strong people)” is one of the examples provided by Lakoff and Johnson (2003).

Apresjan (1974) argues the relation that is assumed to hold between the senses of a word to be of contiguity or connectedness, therefore metonymically motivated polysemy respects the usual notion of polysemy. He continues and explains that in metonymically motivated polysemy both of the basic senses are the same. For example, the word chicken possesses the basic sense that refers to the animal and a secondary sense that refers to the meat of that animal.

Further changes were observed by Nunberg (1979) who argues the changes of meaning in metonymically motivated polysemy not to be accidental (as in the case of homonymy) but more regular and proposed to explain these changes of meaning by the function called by him the referring function (RF) with the general interpretation of x for y. RF makes it possible to refer to distinct categories of things by using the same expression and as explained by Nunberg in Klepousniotou (2001) gives us the option of identifying the referent by pointing at something called the demonstration when we cannot point to the referent itself and therefore identify what the speaker is referring to.

Klepousniotou (2001) provides an example of RF: ‘Washington voted for Bill Clinton’ and explains that the listener can identify that the speaker means ‘the inhabitants of Washington’ by using the RF general interpretation of x for y. Another interesting argument provided by Apresjan (1974 as cited in Klepousniotou, 2001) is that metonymically motivated polysemy appears to be at the other end of the continuum from homonymy, which makes metonymically motivated polysemy differ quite substantially when compared to metaphorically motivated polysemy.

#### **2.4.3.1.4. Polysemy Arising Through Foreign Influence and Semantic Borrowing**

Polysemy can also arise through foreign influence as well as semantic borrowing (homonyms). Foreign influence is explained by Ullmann (1962) as one of the ways one language can influence another language is by changing the meaning of the words represented by that language.

Therefore, sometimes the borrowed sense will succeed the old one. He presents an example of the French word *Parlement* (from the verb *parler* ‘to speak’) which originally meant ‘speaking’, later began to mean ‘judicial’ court under the influence of the English word *parliament*, with the contemporary meaning ‘legislative assembly’ becoming the only meaning it is used for at the moment. Ullmann (1962) note that often the old sense would survive alongside the new to allow it to rise to the state of polysemy.

Semantic borrowing is another way polysemy can arise, which is similar to the way homonyms can arise. Ullmann (1962) explains this to be especially frequent in the cases when there is close contact between languages, with one language serving as the model for another one. This was the case in the early Christian church where Hebrew had a powerful influence on Greek, and the latter had a powerful influence on Latin. He explains how many important concepts in Christianity developed through semantic borrowings either from Hebrew or Greek.

Another interesting way polysemy occurred through semantic borrowing as discussed by Ullmann (1962) that Hebrew has influenced, is the case of the Greek *κύριος*, Latin *Dominus*, English *Lord*, French *Seigneur* and German *Herr*, all words meaning ‘master’ and ‘God’. Jewish people were not allowed to use the name of *God*, therefore they used ‘master’ instead. Through the translation of the Bible, the word master as in Greek *κύριος* acquired an additional meaning ‘God’.

#### **2.4.3.1.5. Central or Core Meaning in Polysemy**

Polysemous words are believed to share a core meaning that is similar across different senses, and this factor is supposed to set this semantic item apart from homonymy. Polysemous words are believed to possess primary and secondary meaning. It has been argued that the primary meaning of a word is derived or related to the core meaning and the secondary meaning is connected to the core either historically or psychologically.

If the notion of polysemous words possessing a core meaning is true, one could retrieve this core meaning when encountering a polysemous word and have an idea of what a speaker is talking about (Foraker and Murphy, 2012). They continue and explain that the notion of polysemous words sharing a common meaning has been highly criticized in the linguistic field and explain that many experiments have actually found senses of polysemous words to have very few features in common, for example, the word ‘church’, when read in a neutral context does not allow a reader to

access a core meaning of the word encompassing both a building and the religious organization as both of these concepts have few if any common features.

For example, research conducted by Klein and Murphy (2001) was aimed at investigating the amount of overlap of different senses by using a priming technique, where the use of one word was followed by another, which represented the same or a different sense, in order to discover whether the notion of polysemous words sharing a core meaning is true. The research consisted of five experiments where each of the experiments was aimed at discovering a different aspect of the way polysemous words are represented and recognized by the participants. Experiment 1 was aimed at investigating if participants were better at recognizing a word used in the same or different sense than its original representation.

The evidence arguing against polysemous words possessing a core meaning. Interestingly, no qualitative difference between polysemy (core meaning) and homonymy (no core meaning) was found, which should be the case if the notion of one possessing core meaning and another not possessing core meaning is expected. Another research by Klein and Murphy (2002) found similar results and concluded that even if there is a core meaning present in polysemous words it has minimal content. They also concluded that more research should be done as polysemy is a complicated semantic item and it is difficult to draw clear boundaries in order to determine the nature of its representation.

However, other research has found evidence for polysemy possessing core meaning; for example, a research done by Klepousniotou (2012) found that polysemous words (metonymous words) were processed faster in the brain than homonyms and showed a greater priming effect that corresponds with the generative lexicon approach and the theory of a single semantic representation that allows the processing of the word to be faster as a single core meaning has to be accessed. Pustojovsky (1996) proposes that generative lexicon approach is the new way of viewing decomposition which differs from the two distinct approaches of the word meaning: a primitive based theory which assumes the word meaning to be defined in the terms of fixed primitive elements, and relation-based theory which proposes a decomposition of the words not to be necessary if these words are associated through a network of explicitly defined links.

Pustojovsky's (1996) generative lexical approach examines more generative or compositional aspects of lexical semantics, and he defines his approach as a system involving at least four levels

of semantic representation with a set of generative devices connecting those levels. Interestingly, it was also found that polysemous words were processed differently; metonymous words were processed faster and received more priming than metaphors. If it is assumed that polysemy and homonymy appear at different ends of lexical ambiguity, metonymous words should be placed somewhere in the middle.

#### **2.4.3.1.6. Logical Polysemy and Accidental Polysem**

As explained by Asher (2011) words that have closely related senses are considered to be logically polysemous, while words that do not fulfill this criterion are considered to be accidentally polysemous or simply homonyms. Cruse in Asher (2011) has proposed co predication to distinguish between logical polysemy and accidental polysemy, and defines it as: ‘if two different predicates, each requiring a different sense, predicate properties of a different sense of a given word felicitously, then the word is logically polysemous concerning at least to those two senses’. The second test discussed by Asher (2011) is pronominalization or ellipsis. He explains that the word is considered to be logically polysemous if: ‘you can pronominalize an occurrence of a possibly ambiguous word felicitously in a context where the pronoun is an argument of a predicated requiring one sense, while its antecedent is an argument of a predicate requiring a different sense.

#### **2.4.3.1.7. Concepts of Polysemy in Sign Languages**

In sign languages, little primary literature about polysemy exists. Some discussion about polysemous signs in sign language linguistics textbooks or definitions in sign language dictionaries have been discussed so far. These include Johanson and Schembri (2007) on Auslan Sign language, Valli and Lucas (2005), Cokely (2014) and Naughton (2001) on ASL, Dikuya et al. (2017) on Turkish Sign Language (TID) and Tomita (2016) on Japanese Sign Language (JSL).

In Auslan, Johanson and Schembri (2007) elaborated some polysemic signs. Two examples of polysemic signs in Auslan are presented in figure 3 below:



(A). STREET, ROAD, WAY, METHOD



(B). CONGRATULATE, FAVOURITE,  
POPULAR, PRAISE

Figure 3. Lexically extended polysemous signs in Auslan Sign language taken from Johanston and Schembri (2007).

The above two signs in Figure 3 are polysemous: sign (A) means ‘street’, ‘road’, ‘way’ or ‘method’ and (B) means ‘congratulate’, ‘favorite,’ ‘popular’ and ‘praise’. It seems likely that these meanings are related due to the process of lexical extension. This is because, if the meanings of these words are related to each other meaningfully, signers extend the sign of a former word for other words that are related in meaning. The result is a single sign with multiple related meanings. Therefore the signs in Figure 1 qualify as polysemous signs in Auslan based on the definition of polysemy in sign language. The above examples of polysemy signs may also same in spoken languages. However, it is not clear how they related to form polysemy in Auslan. Furthermore, it is not pointed out that above mentioned polysemous signs in Auslan in form of syntactic differences as a sign of polysemy. As mentioned above as of Lyons, lexical polysemy is a sense relation within a particular syntactic category, i.e. lexical polysemy does not cut across syntactic word-class boundaries.

Dikyuva et al. (2017) state that meanings of words or signs are related to language-internal factors and non-linguistic factors such as entities in the world, situations in which the word is uttered/ signed, thought processes of interlocutors, and intentions of interlocutors. Therefore, it is not an easy task to derive meaning from a linguistic perspective only. Nonetheless, senses in the mind can refer to both physical and nonphysical entities. Therefore, natural languages have the same words (or signs) for both physical and nonphysical entities. According to them, there are many polysemous signs in Turkish Sign Language.

Cokely (2014) notes that polysemous items also commonly exist in English and ASL. For example: ‘orange’, is identically polysemous, i.e. the multiple semantic senses of the sign in ASL

and the multiple semantic senses of the English word are co-terminus. The sign and the word each refer to a particular type of citrus fruit and each refer to the same color. The use of the English word 'orange' when either semantic sense of the sign is intended, would result in a successful interpretation. Items of this type can be called paired polysemous lexical items. However, there are some cases where polysemous lexical item in ASL has no direct symmetrical counterpart in English. For example, the polysemous lexical item BASKETBALL in ASL has no direct symmetrical counterpart in English. Items of this type can be called unpaired polysemous lexical items.

In her description of Polysemy in ASL, Naughton (2001) states questions arise regarding the nature of polysemy when we consider signed languages in general and ASL in particular. Using the traditional definition of polysemy, a lexical item that has multiple related meanings, she found few polysemous usages of verbs of visual perception in ASL (SEE and LOOK-AT). Naughton (2001) mentions that ASL has a large inventory of derived forms of these vision verbs wherein additional morphology changes the meaning - sometimes in very subtle ways.

In the case of distinguishing nouns and verbs through the process of reduplication, Supalla and Newport (1978:128-131) discover one-hundred noun-verb pairs in which the movement of the verb is reduplicated to derive a related noun. All of the nouns are concrete objects (for example, CHAIR, KEY, CAMERA) while the corresponding verb (SIT, LOCK, SNAPSHOT) displays the action performed with or on the object. One could argue that, although the repeated morpheme performs the same function in each of the pairs (changing a verb to a noun), the resulting meanings are related but not precisely the same. For example, if we compare the noun/verb pair SIT/CHAIR (the action of sitting and the object on which one sits) to the noun/verb pair LOCK/KEY (the action of locking something and the object needed to perform the action), the relationship of the meanings is not identical. Thus, reduplication is polysemous in the morphological process of deriving nouns from verbs in ASL (Naughton 2001).

#### **2.4.3.1.8. Dealing Semantic Sense of Polysemy in Spoken and Sign Language**

The semantic sense of a lexical item is the reality or idea that a community of users generally associates it with that lexical item. In any language, some lexical items are what can be called single sense lexical items. That is, these items refer to only one specific reality and, as such, have only one semantic sense. Consequently, there is little or no room for ambiguity when that lexical

item is used. In English, for example, the following two words refer to specific, single sense realities that are not currently found on any list of multiple meaning words in English (Cokely 2014).

Cokely (2014) also explains that ‘single sense lexical items’ occur in ASL in much the same way. Consider the following signs:

- i. ‘*SPAGHETTI*’ Translated sentence: “Yesterday at the store my brother bought spaghetti.”
- ii. ‘*BASKETBALL*’ Translated sentence: “Yesterday at the store my brother bought a basketball.”

If someone knows each of the realities and how the ASL-signing community refers to them then when someone produces the ASL original of either of these translated sentences there is little or no ambiguity. The semantic sense one attaches to the lexical items is the same sense attached by other members of the ASL-signing community. All members of the ASL signing community also infer their knowledge of these real-world realities that the ‘*SPAGHETTI*’ was eaten or will ultimately be eaten while the ‘*BASKETBALL*’ will be used to play a game. Of course, if you do not know the real-world realities or how the ASL-signing community refers to them, then there is no possibility that the use of either sign will result in clear and accurate communication. If you know only one of these realities, you might, for instance, assume that ‘*BASKETBALL*’ is eaten with marinara sauce or that one can dribble and shoot ‘*SPAGHETTI*’ (Cokely, 2014).

Although single sense lexical items exist in English and ASL, the norm for most languages is that lexical items have more than a single semantic sense. This makes sense simply from the perspective of cognitive and linguistic efficiency. Lexical items that have more than one semantic sense refer to more than one reality. Linguists call such lexical items as polysemous lexical items; although in English they are commonly referred to as “multiple meaning” words (Lyons, 1995). Often, but not always, multiple semantic senses are attached to a lexical item because there is a physical resemblance between two realities or a metaphorical link between the original semantic sense of an item and a novel semantic sense (Cokely, 2014). Consider, for example, the different semantic senses of the following English words:

- i) ‘*Mouth*’ the orifice through which food is ingested; an opening to a cave; the open end of a jar; the point at which a river or a stream empties into a larger body of water.
- ii) ‘*Fork*’ a tined eating utensil; the point at which two pathways or tree limbs diverge.

According to Cokely (2014), polysemous lexical items also occur in ASL. Consider the following signs. Two ASL signs and the English words commonly used to represent their semantic senses rather precisely illustrate one complexity of interpreting polysemous lexical items between the two languages. First, it seems indisputable that the various semantic senses of the signed lexical items are not unique to the ASL-signing community, but are shared with the English-speaking community. In the first instance, example (i), both the ASL-signing community and the English-speaking community eat the fruit of orange citrus fruit trees and the distinctive color orange bears no unique or specific cultural significance to either community. In the second instance, example (ii), both communities use motorized vehicles that have carburetors, both have members who repair them and most members of each community, it would be safe to say, are largely ignorant of what a carburetor does and how it works”.

According to (Ibid 2014), both communities also have members who pursue and receive graduate degrees and who have to take comprehensive exams (although one might easily make a compelling case that taking comprehensive exams in one’s second language might be valued and viewed differently). Because these real-world realities are common to both communities and are similarly perceived by both communities, we can conclude that the four realities referred to by the two ASL signs and the two English words are essentially the same for each community.

The authors also note that in the case of example (i) not only is the ASL sign polysemous, but the English lexical item that would commonly be used to interpret either semantic sense, ‘orange’, is identically polysemous, i.e. the multiple semantic senses of the sign and the multiple semantic senses of the English word are co-terminus. The sign and the word each refer to a particular type of citrus fruit and each refer to the same color. The use of the English word ‘orange’ when either the semantic senses of the sign is intended, would result in a successful interpretation. Items of this type can be called paired polysemous lexical items.

In the case, there is a polysemous lexical item in ASL that has no direct symmetrical counterpart in English. Items of this type can be called unpaired polysemous lexical items. According to Cokely (2014), lexical items do not begin their linguistic life as polysemous items either in the life of the community or the life of an individual member of the community. Rather, the various senses of polysemous lexical items are added incrementally over time both the time of an individual’s life and the time of a language’s life.

### 2.4.3.2. Synonymy

Synonyms are different phonological words that have the same or very similar meanings. Some examples might be the pairs in English include couch/sofa, boy/lad, lawyer/attorney, toilet/lavatory, large/big. Even these few examples show that true or exact synonyms are very rare. As Palmer (1981) notes, the synonyms often have different distributions along with a number of parameters. They may have belonged to different dialects and then become synonyms for speakers familiar with both dialects, like the Irish English press and the British English cupboard. Similarly, the words may originate from different languages, for example, cloth (from Old English) and fabric (from Latin) (Saeed, 1997).

Synonymy means the "...sameness of meanings," Palmer (1976:88). The sets of words that have the same meanings are called the synonymy of one another. Synonyms are the term that overlaps in denotative meanings, connotative meanings or both. The best known of these relations is synonymy in which terms have the same denotation. For example, "car-auto" (Hermann, 1978; Ness, 1953).

According to Saeed (1997:65), synonyms are "different phonological words which have the same or very similar meanings". Some examples of synonymous pairs are couch-sofa and toilet-lavatory. From these examples it can be noted that words that are completely synonymous are very difficult to find. This is because many words that are considered synonymous actually have different patterns of distribution. The uses of a word and its synonym may refer to the same concept but may be used in different situations, different contexts, or different dialects. For example, the pair toilet-lavatory refers to the same basic concept but its members belong to different dialectal registers. Pairs of words that are perfect synonyms, meaning that pairs containing words that can be substituted for one another in any contexts, are very rare and may not exist at all. To be considered synonyms, though, the two lexical items must contain a significant amount of semantic overlap and differ only in peripheral traits (Cruse, 1986).

An important source of synonymy is taboo areas where a range of euphemisms may occur, for example in the English vocabulary for sex, death and the body. We can cite for example the entry for die from Roget's Thesaurus: die: cease living: decess, demise, depart, drop, expire, go, pass away, pass (on), perish, and succumb. Informal: pop off. Slang: check out, croak, kick in, and kick-off. Idioms: bite the dust, breathe one's last, cash in, give up the ghost, go to one's grave, kick

the bucket, meet one's end (or Maker), pass on to the Great Beyond, turn up one's toes (Saeed,1997).

Roget (1995:66) in semantic description suggests that the words may belong to different registers, those styles of language, colloquial, formal, literary, etc. that belong to different situations. Thus, wife or spouse is more formal than old lady or missus. Synonyms may also portray positive or negative attitudes of the speaker; for example, naive or gullible seem more critical than ingenuous. Or we might compare the synonymous pair with the very different pair as in a big house; a large house; my big sister; my large sister.

As an example of such distributional effects on synonyms, we might take the various words used for the police around the English-speaking world: police officer, cop, copper, etc. Some distributional constraints on these words are regional, like Irish English the guards (from the Irish garda), British English the old Bill, or American English the heat. Formality is another factor: many of these words are of course slang terms used in colloquial contexts instead of more formal terms like a police officer. Speaker attitude is a further distinguishing factor: some words, like fuzz, flatfoot, pigs or the slime, reveal negative speaker attitudes, while others like cop seem neutral. Finally, as an example of collocation effects, one can find speakers saying a police car or a cop car, but not very likely are a guard's car or an old Bill car.

Bulgăr (2000) is one of the first linguists who try to define synonymy. According to him, "Synonymy is said to exist when, with different words and names, which mean the same thing, we express the same opinion in many ways" (Bulgăr 2000: 3). Molnar explains the repetition of the idea by synonyms, by juxtaposition, or by synonymic coordination, referring to those who "being afraid that they did not explain as they should have, they say it again and again, with special words, even though the meaning is the same". The problem of the very existence of synonyms gave birth to contradictory disputes which also included the idea of the inexistence of synonymy.

A more inclusive definition, related to the one formulated by R.A. Budagov (1961), is proposed by M. Bucă (1970), in which he specified that synonyms express nuances of the same notion."The synonyms are words Theoretical Accounts upon Synonymy which denote the same class of objects and express the same notion, being distinguished, in most of the cases, either by stylistic nuances or by semantic nuances or by all these types of nuances," (Frigură, 1980: 22); the definition given by A. Bidu-Vrănceanu (1988: 76) states that "two or more language units can be synonymous if

they globally designate the same object in situations in which the dialectical and stylistic-functional distribution are neglected (consciously or not)."

A synonym is a word of similar or identical meaning to one or more words in the same language. They are no two absolutely identical words because connotations, ways of usage, frequency of an occurrence are different. It is a word of similar or identical meaning to one or more words in the same language. All languages contain synonyms but in English, they exist in superabundance (Roget, 1995).

Yule (1996) states that synonyms are different phonological words that have the same or very similar meanings; for example, in couch/sofa, boy/lad, lawyer/attorney, toilet/lavatory and large/big. Lyons (1995) said that absolute synonymy is very rare and he defined synonymy in the way that "two expressions are absolutely synonymous if all their meanings are identical in all linguistic contexts." Lyons also listed common types of synonyms as follows:

#### **2.4.3.2.1. Near synonyms**

The synonyms which have no identical senses but are close in meanings are near-synonyms. For example, **mist** and **fog**, **stream** and **brook** and **dive** and **plunge**.

#### **2.4.3.2.2. Sense synonyms**

The term which shares one or more senses are called sense synonyms. Sense synonyms share at least one sense and match in every other property for that sense are complete synonyms (Lyons, 1981).

#### **2.4.3.2.3. Partial synonyms**

The term which shares some senses but differs in some aspects is called partial synonymy, i.e., the way they are used or in some dimension of meaning (Cruse 1986; Lyons 1995).

According to Palmer (1976) if we look at possible synonyms there are at least five ways in which they can be seen different:

First, some sets of synonyms belong to different dialects of the language. For example, the term "fall" is used in the United States and its synonymous term "autumn" is used in western countries of Britain. Secondly, some words used in different styles. This is similar to the first one but the difference lies in the use. Thirdly, some words may be said to differ only in their emotive or evaluating meanings. For example, *politician and statesman*, *hide and conceal*, *liberty and freedom*, each implying approval or disapproval and there lies the emotive difference between

these words. Some words are used purely for evaluative purposes such as *good* and *bad*. Fourthly, some words are collocationally restricted, that is, they occur only in conjunction with other words. For example, “*Rancid*” occurs with bacon or butter and “*addled*” occurs with eggs or brains. Perhaps these are true synonyms differing only in that they occur in different environments. Fifthly, it is that many words are close in meanings or that their meanings overlap. For example, the possible synonyms of the word “mature” are adult, ripe, perfect and due.

Synonyms are mutually interchangeable in all environments. And it is the case that there are no total synonyms in this sense or no two words have exactly the same meaning. And Palmer (1979) found out that some words are interchangeable in certain environments only, e.g. the words deep or profound may be used with sympathy but only deep with water. And road may be broad or wide but an accent only broad (Ibid).

Synonyms differ in their “connotations” i.e “secondary meanings”. It often refers to emotive or evaluative meanings. It also refers to stylistic or dialectal differences or even small differences that are found near-synonyms. E.g. woman has the connotation “gentle” and pig has the connotation “dirty”.

According to Palmer (1979), the following two phenomena sometimes come under synonymy; these are:

- (1) Context-dependent synonymy, in which two items appear to be synonymous in a particular context.
- (2) Synonymy between bull and male adult bovine animal in which the test of interchangeability asays that these are completely synonymous, even though in some sense the two items seem to have the same meaning.

Loosely speaking, synonymy is the sense/semantic relation of ‘sameness’ of meaning. Technically, for two words to be synonymy, they have to be similar and share all essential components, and thus capable of being used to substitute one another in all contexts without any noticeable difference in their meanings. This type of relation is termed as complete or absolute synonymy.

Complete synonymy, however, does exist rarely due to stylistic, regional, dialectal, emotional and contextual differences that create differences between synonymous words (Palmer, 1976: 59-65; Fromkin and Rodman, 1993: 131; Crystal, 1997: 105; Herford and Heasley, 2006: 102&Murphy

2006: 367). For example, in Macha-Oromo *soba* and *kijiba-* 'false', and *ka:te* and *fi:ge-* 'ran' seem examples of complete synonymous (Ashenafi, 2015).

The other type of synonymy which occurs in languages is termed as partial synonymy. According to Murphy (2006) and Lyons (1995:61), this type of synonymy indicates semantically similar lexical elements which differ by some dimensions or degrees of meaning and use. These are words/lexemes which share most of their necessary components or constituents but not all. In the dialect, examples of partial synonyms are given below. In the following lexical elements, the sense relations among the pairs are slightly different based on the contexts in which they are used. However, they seem identical in their free occurrences (Ashenafi, 2015).

#### 2.4.3.2.4. Classification of Synonyms

Using interchangeability criterion, Vinogradvo (1982) classified synonyms as follows:

1. **Total synonyms:** can replace each other in any given context, without the slightest alteration in denotative or emotional meaning and connotations (e.g. noun and substantive, functional affix flexion and inflection). It is an extremely rare occurrence. Ulmann (1962) described it as "a luxury that language can hardly afford." M. Breal spoke about a law of distribution in the language (words should be synonyms, were synonyms in the past usually acquire different meanings and are no longer interchangeable).
2. **Ideographic synonyms:** bear the same idea but not identical in their referential content. For example: to happen – to occur – to befall – to chance; Look – appearance – complexion – countenance. They also bear the same idea but not identical in their referential content for example: to ascent – to mount – to climb. To happen – to occur – to befall – to chance as well as in look – appearance – complexion – countenance (Vinogradvo, 1982).
3. **Dialectical synonyms:** are pertaining to different variants of language from a dialectal stratification point of view; for example, *lift – elevator*; *Queue – line*; *autumn – fall*; *lift – elevator* (Vinogradvo 1982).
4. **Contextual synonyms:** can emphasize some certain semantic trades & suppress other semantic trades; words with different meanings can become synonyms in a certain context. For example, *tasteless – dull*; *active – curious*; *curious – responsive*. Synonyms can reflect social conventions. For example: *Clever (neutral)*; *bright (Only speaking about younger people by older people)*; *intelligent (Positive connotation)*; *dever-clever (Stylistically remarked)*( Vinogradvo, 1982).

5. **Stylistic synonyms:** belongs to different styles. For example: *child* (neutral) - *infant* (elevated) – *kid* (colloquial), *to die* (neutral) - *to kick the bucket* (colloquial) (Vinogradov 1982).

#### 2.4.3.2.5. Sources of Synonyms

The coincidence in the essential meanings of linguistic elements which (at the same time) usually preserve their differences in connotations and stylistic characteristics. Synonymy has its characteristic patterns in each language. Its peculiar feature in English is the contrast between simple native words stylistically neutral, literary words borrowed from French and learned words of Greco-Latin origin. New words may be formed by affixation or loss of affixes, by conversion, compounding, shortening and so on, and being coined, form synonyms to those already in use. Linguists also describe that sources of synonyms come from the development of the native elements, mostly denoting different shades of common meaning, e.g. *fast* – *speedy* – *swift*; *handsome* – *pretty* – *lovely*; adaptation of words from dialects and varieties of one language, e.g. *dark* – *murk* (Northern English); *girl* – *lass* (Scottish English); *wireless* – *radio* (American English); foreign borrowings, e.g. *to ask* (native) – *to question* (French) – *to interrogate* (Latin); *to end* (native) – *to finish* (French) – *to complete* (Latin) (Vinogradov, 1982).

#### 2.4.3.2.6. Synonyms in Sign Languages

Like other types of lexical relations, synonyms are not studied in sign languages except for some explanations given by different sign linguists without any commonly accepted features. The researcher tried to review these explanations as a starting point for the current research. These explanations are given based on traditional concepts of synonyms in spoken languages. The examples of synonymic signs in sign languages are provided in accordance with definitional concepts of synonymy.

Synonyms are lexical items with different phonological forms that have the same or similar meanings. According to Valli et al. (2005), we can take two signs as being synonymous if they “mean the same thing.” She continues saying that when we say two words or signs “mean the same thing,” we are generally talking about their referential meaning. However, it is good to note that true synonymy is rare in sign languages. Atkins and Rundell (2008) argue that “words with the same meaning” are ‘synonyms’, but they warn that “it is difficult to find convincing examples of synonyms, because true synonyms are extremely rare if they exist at all”.

Johnson and Schembri (2007) state that synonyms are lexical items with different phonological forms that have the same or similar meanings. Examples in Australian Sign Language (Auslan) would include different variants of BLUE, MOTHER and AFTERNOON, or finger-spelled Y-E-S and N-O versus signed YES and NO. However, that true synonymy is rare. Although the descriptive meanings of the various forms of the signs for BLUE are the same, their social meanings are different. The variant of the sign BLUE with the 8 handshapes is associated with the northern dialect, for example, and the form with the B handshape is used elsewhere in the country and in Australasian Signed English. Similarly, the two forms of the sign MOTHER appear to have differences in affective and social meaning: the form on the forehead appears to be more widely used in the southern dialect of Auslan than the two-handed sign, and some signers prefer it for use with small children (i.e., as the Auslan equivalent of ‘mummy’).

Johnson and Schembri (2007) note finger-spelled Y-E-S and the sign YES may also reflect differences in social meaning finger-spelled. Lexical items are clearly used more often by older signers, for example (Schembri & Johnston, in press). Similarly, as is also true of ASL (Valli et al., 2005), signers will often move between fingerspelled and signed lexical items for particular communicative effects. A signer may, for example, fingerspell N-O as a form of emphasis rather than use the sign NO. Thus the expressive meaning of the two forms is different.

Konard (2013) also describes synonymous signs as different forms, different underlying images. Synonymous signs in German Sign Language (DGS) are signs with the same meaning (subtypes are replaceable in context). Ex.: ‘Brot’ (bread)



Figure 4: synonymic signs in DGS

Synonymous signs can also be phonologically variants: similar form, same underlying image and same meaning (subtypes are replaceable in context). For example, ‘Brot’ (bread) as illustrated in Konard (2013) in DGS.



Figure 5: BREAD in DGS (Konard 2013)

### 2.4.3.3 Antonymy

Antonym is a type of paradigmatic relations based on the polarity of meaning. Antonyms are defined in Greek word as (*anti* ‘against,’ *ónyma* ‘name’); they are two or more words of the same language that belong to the same part of speech and semantic field. They are also identical in style and nearly identical in distribution. And they are often used together so that their denotative meanings render contrary or contradictory notions (Yule, 1979).

According to Yule (1979), antonyms are words which are “opposite” in meanings. It is useful to identify several different types of relationships under opposition. “/” sign is used to indicate antonyms. For example, as in good/bad, life/death, come/go, dead/alive, pass/fail (Palmer, 1976) The term antonym is used for “oppositeness of meaning” and words that are opposite are antonyms. Antonym is often thought as the opposite of synonymy, but the status of the two antonyms is very different, for example, as in wide/narrow, old/young, big/small, etc. (Palme, 1976:94). The relation among words in which the meanings of one term contrast, oppose, or contradicts the other term is called antonyms (Bollinger & Sears, 1981; Cruse; 1976; Lyons, 1968). A few linguists, such as Cruse (1986) and Lehrer and Lehrer (1982) have tried to identify the factors which determine whether two words are antonyms or just near-opposites. Each of these factors, in identifying what keeps two words from being antonyms, also makes an implication about the nature of antonymy, and together these factors seem likely to be useful in answering some of the "big questions" about antonymy, in particular, the questions of what makes two words

antonyms and why some words have no antonym. According to the authors, these factors are listed through (a) to (f) below, and they will be examined in more detail manner;

**(a) The purity of the semantic opposition**

In some pairs of near opposites (e.g. whisper/shout) the semantic opposition does not exhaust the meaning of the words. The implication is that in prototypical pairs of opposites, the semantic contrast does in some sense exhaust the meanings of the words.

**(b) The ease with which a semantic dimension can be imagined**

With near-opposite pairs such as town/country, it is hard to determine what the relevant semantic dimension could be. The implication is that for prototypical opposites, the semantic dimension can be easily identified.

**(c) Correspondence of non-propositional meaning**

Some near opposites (e.g., tubby/emaciated) have very different connotations. The implication is that prototypical opposites are very similar in terms of non-propositional meaning.

**(d) Distance from the midpoint of a semantic dimension**

In some cases, one member of a pair of near-opposites (e.g., terrible) seems to name a more extreme value than the other member (good). The implication is that prototypical opposites lie at equally distant points from a midpoint.

**(e) Similarity in distribution**

For example, both *big* and its antonym *little* can refer to relative age rather than physical size in constructions such as big sister and little brother, but the near-opposite of little, that is, large, can only refer to the physical size with the nouns sister and brother. The implication is that prototypical opposites are similar in distribution.

**(f) Whether the semantic contrast involves a single dimension or multiple dimensions**

Some near-opposites seem to be located along different dimensions, although the dimensions seem to be related to the same general concept. The implication is that prototypical opposites share a single dimension, even if that dimension is related to a concept associated with multiple dimensions.

Cruse (1986) mentions two criteria in defining antonymy: semantic and lexical; he states that not all semantically opposed words are antonyms. He further exemplifies this with the words tubby and emaciated. To him, almost all established antonyms have synonyms that could not constitute

the antonym pairs, for example, the antonym pair of heavy and light is better than weighty and insubstantial; antonym pair of fast and slow is better opposites rather than speedy and sluggish; antonym pair of happy and sad is more reasonable than ecstatic and miserable. Although both antonymy and synonymy link words together in the lexicon, Gross et al. (1988) argue that antonymy and synonymy are different. To them, synonymy is "a relation between lexical concepts" whereas antonymy is "a relation between words, not concepts."

In traditional terms, antonyms are words with opposite meanings (Saeed, 1997). Antonymy, or linguistic opposition, is considered by many researchers to be an important principle governing a language's internal structure, at least within its lexical store (Deese, 1964; Lyon, 1977; and Richards, 1967). According to their first inspection, English antonyms seem to fall into two descriptive categories. One category consists of morphological antonyms, where the opposite of a lexical item is formed by the addition of a negating affix. The antonymous pair, in this case, is formed through a language's word formation rules. Examples of such antonymous pairs include happy-unhappy, continue-discontinue, eligible-ineligible. The other main type of antonym consists of lexical opposites that are not morphologically related to each other. Examples of this type of oppositions are pairs such as happy-sad, fail-succeed and up-down.

Antonymous lexical items can be viewed as words that portray simultaneous closeness and distance (Cruse 1986). Antonyms are typically word pairs that share all but one dimension of their meaning. In this way, words that portray an opposite lexical relationship can also be considered to be semantically similar. When looking at antonyms, it seems that there are many types of relations which seem to involve lexical items that can both be viewed as consisting of similar features and yet are incompatible or contrastive in some aspect of their meaning. Yule (1979), on the other hand, describes four types of antonyms, namely simple antonyms, gradable antonyms, reverses and converses.

**Simple antonyms:** refers to the relationships between the words in which the negative of one implies the positive of the other. The pairs are also sometimes called complementary pairs or binary pairs, as in dead/alive (e.g. human beings), pass/fail (e.g. exams); hit/miss (e.g. a target).

Lyons (1968:460) stated that the terms male/female, married/unmarried, alive/dead are complementary to each other. They are in some ways similar to gradable antonyms, i.e., both exhibit incompatibilities. For example, if something is wide it means that it is not narrow.

**Gradable antonyms:** refers to the relationships between opposites in that the positive of one term does not necessarily imply the negative of the other. As in rich/poor (for example, status), fast/slow (for example, speed), young/old (for example, age), beautiful/ugly (for example, complexion). This relation is associated with adjectives, and it has the following two major features (Sapir, 1944):

(1) They are usually intermediate terms between the gradable antonyms. For example, hot and cold. This means that something may be neither hot nor cold.

(2) The terms are usually relative. For examples, a thick pencil is likely to be thinner than a thin girl. Sapir (1944) argued that the comparative forms of the adjectives (ending with -er or occurring with more) are explicitly graded, so we can say that one road is wider than another. Thus Sapir said that these are graded antonyms.

**Reverses:** This is a relationship between the terms describing movements where one term describes movement in one direction while the other term describes the same movement in the opposite direction. As Push/pull (for example, door), come/go (for example, walk), ascend/descend (for example, inclined plane) (Sapir, 1944).

**Converses:** This is the term that describes the relationship between two entities from different viewpoints. As in above/below, employer/employee, own/belong to, etc. Antonyms signify the semantic incompatibility of the contrasting words. Antonyms are the subtype of contrast in the sense that it is a contrast within a binary paradigm while the term antonym is sometimes reversed for more specific relations. It is used here for only binary semantic contrast among lexical items, whereas, the opposite is used here more broadly not limited to a contrast (Sapir, 1944).

Cruse (1986) identifies four types of antonyms; they are contradictory antonyms, Contrary antonyms, Directional antonyms and Reverse antonyms.

Contradictory antonyms refer to terms opposed dichotomously, for example, alive-dead; Contrary antonyms stand for terms that are opposed symmetrically on a continuous dimension, for example, hot-cold. Directional antonyms are concepts opposed in time or space, for example, before-after, above-below. Reverse antonyms, sometimes called converses, represent opposed actions, for example, buy-sell.

Similar to Cruse (1986), researchers classified antonyms according to the character of semantic oppositions as contrary antonyms, contradictory antonyms, converse antonyms and directional antonyms.

Contrary antonyms are antonyms that possess the following characteristics: they are gradable, that is, there are some intermediate units between the most distant members of a set, for example, *cold – cool – tepid – warm – hot; never – seldom – sometimes – often – always*; they are capable of comparison, for example, *good – better – best vs. bad – worse – worst*; they can be modified by such intensifiers as *very, slightly, extremely, fairly, rather, etc.*, for example, *huge – very big – BIG – quite big – medium-sized – quite small – SMALL – very small – tiny*; they do not deny one another, for example, *She is not beautiful ≠ She is ugly* and they refer not to independent absolute qualities but some implicit norm, for example, *a big mouse* against *a small elephant* (Cruse 1986).

Contradictory antonyms (complementary antonyms) are mutually opposed (exclusive) and deny one another, for example, *male- female, married- single, asleep-awake, same-different*. Their features: not gradable; truly represent oppositeness of meaning; cannot be used in the comparative or superlative degree; the denial of one member of such antonymic opposition always implies the assertion of the other, for example, *not dead – alive* (Cruse, 1986).

Converse antonyms (conversives) are words which denote the same situation as viewed from different points of view, with a reversal of the order of participants and their roles, for example, *husband-wife, teacher-pupil, to buy- to sell, to lend- to borrow, to precede- to follow*. These antonyms are mutually dependent on each other and one item presupposes the other (Cruse, 1986).

Directional antonyms are words denoting differently directed actions, features, for example, *to rise – to fall; to arrive – to depart; to marry – to divorce; to learn – to forget; to appear – to disappear* (Cruse 1986).

Morphologically, antonyms are also classified by V. N. Komissarov (Dictionary of English Antonyms) as root (absolute) antonyms and derivational antonyms. Root antonyms (absolute antonyms) are antonyms having different roots, for example, *clean – dirty; late – early; day – night*. Derivational antonyms are antonyms having the same root but different affixes, for example, *to fasten – to unfasten; flexible – inflexible; useful – useless* (Cruse, 1986).

#### **2.4.3.4. Homonymy**

Homonyms are unrelated senses of the same phonological words. They are words that have the same form, but are unrelated in meanings. There is no conceptual connection between a word's two meanings as far as homonyms are concerned (Lyons, 1977: 22& Palmer, 1976: 65). Homophones are words which are pronounced identically (Saeed, 2003); whereas, homographs are words which are spelled the same, but have unrelated meanings (Koskela and Murphy, 2006: 742).

According to Palmer (1976), homonymy refers to several words with the same shape. Homonymous words are those which have a separate entry for each of them. For example, the word flight has five homonyms for mail, armour, post, halfpenny, payment and sport; the important thing is that they are different meanings of the same word.

Yule (1996) on his part distinguishes different types of homonym depending on their syntactic behavior and spelling:

1. Lexemes of the same syntactic category, and with the same spelling; for example, lap "circuit of house" and lap "part of body when sitting down"
2. Lexemes of the same category, but with different spelling; for example the verb ring and wring;
3. Lexemes of different categories, but with the same spelling; for example: the verb keep and the noun keep;
4. Lexemes of different categories, and with different spelling: e.g. not, knot.

There are some complications in the fact that we do not make the same distinction in writing and speech. There are some words such as lead (metal) and lead (dog's lead) are spelt in the same way but pronounced differently. They come under homography. Some words such as site and sight, rite and right are spelt differently but pronounced in the same way. They come under homophony (Palmer, 1976:101). There are some homonyms and homophones that are also very nearly antonyms. E.g. cleave (part asunder) and cleave (unite), raise and raze. (Palmer,1976:102). There are some variations in pronunciation and it means that all the speakers do not have the same set of homonyms. For example, English speakers pronounce the pairs click and clique, talk and torque in the same way (Yule, 1996).

#### 2.4.3.4.1. Classification of homonyms

All cases of homonymy may be classified into full and partial homonymy that means homonymy of words and homonymy of individual word-forms. In spoken language, the bulk of full homonyms are to be found within the same parts of speech [for example, seal ('a sea animal', n.), seal ('a design printed on paper using a stamp', n.)], partial homonymy, as a rule, is observed in word-forms belonging to different parts of speech (for example, seal ('a sea animal', n.) – seal ('to close tightly', v.)). This is not to say that partial homonymy is impossible within one part of speech. For instance, in the case of the two verbs- lie [lai] ('to be in a horizontal or resting position') and lie [lai] ('to make an untrue statement'). The partial homonymy as only two word-forms [lai], [laiz] are homonymous, all other forms of the two verbs are different. Cases of full homonymy may be found in different parts of speech too; e.g. for- preposition, for- conjunction and four- numeral, as these parts of speech have no other word-forms (Yule, 1996).

**By considering sound and graphic form into account:** Linguists have classified homonyms into three aspects: sound-form, graphic form and meaning. Accordingly, they classify homonyms into homographs, homophones and perfect homonyms.

Homophones and homographs come under homonyms (Yule, 1996). As bear (to carry) and bear (animal), tale and tail, etc. The term homonymy adds two further categories in it which are homophones and homograph. These terms show the sameness in words.

**Homophones:** Homophones are the senses of the same “spoken words”. For example, site and sight right and write, etc. Homophones are words identical in sound-form but different both in spelling and in meaning, for example, sea and see v; son and sun (Yule, 1996).

**Homographs:** According to Yule (1996), homographs are senses of the same written word. For example, lap “circuit of a course” and lap “part of the body when sitting down”.

Homographs are words identical in spelling, but different both in their sound-form and meaning, e.g. bow 'a piece of wood curved by a string and used for shooting arrows' and bow 'the bending of the head or body'; tear 'a drop of water that comes from the eye' and tear 'to pull apart by force'.

Yule, (1996) refers to perfect homonyms are words identical both in spelling and in sound-form but different in meaning, for example, case<sub>1</sub> 'something that has happened' and case<sub>2</sub> 'a box, a container'.

**Sources of Homonymy:** diachronically, it would be essential to discuss the historical processes that give rise to homonyms. The two main sources of homonymy are diverging meaning development of a polysemantic word, and the converging sound development of two or more different words (Yule,1996).

The process of diverging meaning development can be observed when different meanings of the same word move so far away from each other that they come to be regarded as two separate units. This happened, for example, in the case of Modern English flower and flour which originally were one word meaning '*the flower*' and '*the finest part of wheat*'. The difference in spelling underlines the fact that from the synchronic point of view they are two distinct words even though historically they have a common origin (Yule, 1996).

Convergent sound development is the most potent factor in the creation of homonyms. The great majority of homonyms arise as a result of converging sound development which leads to the coincidence of two or more words that were phonetically distinct at an earlier date. many lexico-grammatical homonyms appeared as a result of convergent sound development of the verb and the noun (*love* — (to) love and. lufu — lufian) (Yule 1996).

Words borrowed from other languages may through phonetic convergence become homonymous. For example,race are homonymous in Modern English (*cf.* race<sub>1</sub> [reis] '*running*' and race<sub>2</sub> [reis] '*a distinct ethnical stock*')(ibid).

#### **2.4.3.5. Metonymy**

Metonymy is a cognitive and linguistic relation among lexemes in which one conceptual entity provides mental access to another entity within the same structure. The relations are cognitively rooted in patterns of human action and experiences of handling objects. There are certain types of metonymic relations (Yule, 1996: 122 & Nerlich, 2006: 110).

**Cause-Effect Relation:** In cause-effect metonymic relations, the item indicated first in pairings shows cause for the second item to happen. These relations are common in the dialect mentioned as in many other languages too. For example: 'sickness-death' 'tiredness-rest' 'thirsty-drinking'. Thus, in the pairings, the first items in the pairs of the lexemes are causes for the second to occur.

**Container-Content Relation:** As far as various cultures of the world are concerned, many cultural societies or linguistic groups use different tools or equipment's in their daily lives. Some of these tools are seen in the form of container-content relations. The following are examples for these: 'pot-water' 'pocket-money', 'box-furniture'(Yule, 1996: 122 & Nerlich, 2006: 110).

In general, metonymy takes meaning from related concepts or domains. One entity has relation with another to emphasize certain aspects in the given structure (Kennedy, 2001: 13-25).

#### **2.4.3.5.1. Metonymy in Sign Languages**

According to Wilox et al (2004:142) in signed languages, it is not only the semantic pole of a sign that plays a role in metonymy; the phonological pole, the visible moving articulators, also is conceptualized and becomes an important element of metonymic representations. According to him, signed language articulators lead naturally to conceptualizations with the following metonymic possibilities:

- Hands may be conceptualized as objects with shapes, motivating metonymies in which the shape of a part stands for the entire object.
- Hands may be conceptualized as objects that move in space, motivating metonymies in which action stands for an instrument.
- Hands may be conceptualized as objects performing some function, motivating metonymies in which the hand's interaction with an object stands for the object, or motivating metonymies in which a prototypical action stands for the whole activity.
- Hands are not the only articulators used in signed languages. The face plays a significant role in the expression of signed languages and consequently is seen in conceptual metonymy. For example:
- Eye gestures such as opening wide or squinting may be seen in conceptual metonymies in which the physiological effect on the eyes stands for the perceptual or motoric cause/accompaniment.
- Mouth gestures (e.g., opening or tightly shut) may be seen in conceptual metonymies in which the motoric consequence on the mouth stands for the degree or quality of the causal action or perception.
- Muscular tension in the jaw may be seen in conceptual metonymies in which the muscular result stands for the cause.

**Types of signed language metonymies:** Wilox et al. ( 2004) mention some types of metonymies in sign languages and discussed concepts with conceptual articulators of signs. We shall review these types of metonymies in sign languages as follows.

**Prototypical characteristic for whole entity:** Simple lexical metonymies in which a prototypical physical characteristic is used to represent the whole entity are common in the signed language (Wilcox et al 2004: 144). They provided an example in ASL like, the signs for ‘bird’, ‘horse’, and ‘cow’ depict prototypical physical properties of these animals: the beak, the ears, and horns, respectively.

**Action for instrument:** According to Wilcox et al. (2004), a type of metonymies in which the action of the hands in interaction with some object represents the instrument of action. Examples include signs in ASL and LSC meaning TYPEWRITER, GUITAR, TOOTHBRUSH, JACK, and OAR. In the ASL to form a sign for TYPEWRITER, for example, the hands and fingers move in a way representing the action of typing.

**Prototypical action for activity:** The hands and their movement may also be used to represent some prototypical action taken with some object; this in turn, may come to metonymically express the general activity (Wilcox et al., 2004). They exemplified this type of metonymic sign in both ASL, the signs DRIVE, CAR, EAT, and BATHE exemplify this. To them, the ASL sign for DRIVE-CAR, for example, represents the prototypical action of the hands holding onto a car’s steering wheel. This sign does not mean ‘hold the steering wheel’ or even ‘steer a car’ but instead the general activity ‘drive a car’. Although many other activities are associated with driving a car, e.g. entering the vehicle, adjusting the rearview mirror, turning the ignition, it is the prototypical activity that forms the basis of the metonymy of DRIVE-CAR. The strategy of using a prototypical interaction with a specific component to metonymically express a whole activity is common across a range of objects and activities (ibid: 146).

Wilcox et al (2004: 146) mention that in ASL, the signs for DRINK-BEER, DRINK-BRANDY, DRINK-RUM-AND-COKE use specific handshapes representing interaction with a container of a specific, prototypical shape, as well as movement characteristic of drinking from these containers. Thus, to form the sign for DRINK-BEER, the hands interact with the handle of a beer mug, making the specific movement that would be used to drink from a mug. DRINK-BRANDY uses a different handshape, with the index and thumb touching at the tips, and the middle, ring, and pinky fingers extended and bent, as holding a prototypical glass of brandy. Similar examples from ASL include TO-WATER (to apply water from a garden hose), TO-SHAMPOO (to apply shampoo to one’s head), as well as the signs for a range of athletic activities such as TENNIS (the hands represent

gripping and swinging a tennis racket), GOLF (gripping and swinging a golf club), and VOLLEYBALL (both hands hitting upwards as if returning a volleyball serve).

**Salient Characteristic of a Person for a Quality:** Wilox et al.( 2004) state that several signs in LSC rely on a type of iconic, gestural metonymy in which a salient characteristic of a well-known person is extended to stand for a more general quality. These metonymies also typically involve metonymic chains. For example, the sign for CHARLIE-CHAPLIN is a compound that iconically depicts Chaplin's moustache and the movement of holding the cane and moving it in circles as Chapin did, thus relying on a physical characteristic for person (in this case two characteristics) metonymy (ibid: 2004). The sign is also used to mean 'person moving fast', which extends the first metonymy to a more abstract characteristic of person for general quality metonymy.

**Deviant behavioral effect for the intensity of experience:** A related set of metonymies occurs in LSC in which a visible, behavioral response to some experience stands not for the causing experience itself but the intensity of the causing experience. The LSC sign that we gloss as CRAZY-EYES (an iconic sign depicting the eyes open wide and moving in wild circles) means 'really good'; the sign could be used, for example, to describe delicious food. Similarly, OPEN-MOUTH means 'astonishment'; and APOPLEXY (iconically depicting the wild movements of a person experiencing a seizure) can be used to describe any 'incredible' experience.

**Metonymy and name signs:** Wilox et al (2004: 148) state that name signs form a distinct subsystem of words in ASL, LSC, and most signed languages. Name signs function much like proper names in that they refer to a particular person instead of an object or concept common to the experience of all users of the language (Stokoe et al. 1965 cited in Wilox et al. 2004). Supalla (1992) identified two distinct types of name signs, what he called 'arbitrary' name signs and 'descriptive' name signs. The difference between the two types, according to Supalla (1992: 7), lies in "whether or not a name sign has a meaning." For example, Supalla's name sign is produced by signing an S handshape at the chin, making two contacts, first on the contralateral side of the mouth and then on the ipsilateral side. This type of name sign is what Supalla calls an arbitrary name sign because it "has no meaning other than it represents the initial of my written (English) name" (ibid).

As an example of the second type, Supalla (1992) suggests that if a person has a salient visible attribute such as buck-teeth, their name sign might use a handshape that is a classifier for the shape

of the teeth, produced at the mouth location, and with a reduplicated movement. While so-called arbitrary and descriptive name signs do rely on different strategies in their formation, it should be obvious that both rely on meaning, and they do so metonymically. Stokoe recognized this characteristic of name signs, noting that the type that incorporates a letter from the person's written name is different from proper names because the name sign refers "first to the name and through it to the person" (Stokoe et al. in Wilox et al. 2004). He also noted that the same characteristic applies to those name signs that incorporate a visible peculiarity in their formation, Supalla's descriptive type.

Stokoe further points out an extended type of metonymy that occurs in the latter type of sign. For example, the name sign for Thomas Hopkins Gallaudet (the founder of American deaf education and for whom Gallaudet University in Washington DC, the world's only liberal arts college for the deaf, is named) is taken from a sign depicting the action of removing pince-nez — the first metonymic extension, characteristic feature for a person. Later, the sign GALLAUDET became a name sign for the entire Gallaudet family. Further, the sign extended to the sign for Gallaudet University (Wilox et al, 2004: 149).

**Prominent Quality for Person:** Wilox et al (2004: 148) state many name signs incorporate the metonymic extension of a prominent quality or characteristic for the person. Parvaz (2003) offers a detailed description of several of these types of name signs. prominent quality for person metonymic name signs are commonly used to refer to religious figures. For example, the Jewish name sign MOSES is a blend of the sign WISE (a hooked index finger tapping deeply at the space immediately in front of the forehead) and the manual letter M. This example also demonstrates that the prominent quality need not also be visible.

According to Wilox et al; although many ASL name signs avoid using orthographic metonymy, the name MARIA-JOSEP does use initialization of her given and family written name. The beauty of her characteristic dark face is accentuated by a movement depicting the letter J around the upper portion of her face with the handshape also of the letter J, a type of dual orthographic metonymy. A similar case is the name sign for Phyllis, a deaf woman characterized by her memory and enjoyment of violin music she had heard as a child. Her name sign now is the ASL sign for music but produced with the handshape P. Because the name sign was based on the sign for music,

Phyllis's name sign also provides a significant cultural identifier. People know immediately that she is different from others who were born deaf and grew up in the Deaf community.

These descriptive name signs need not always incorporate the blending of orthographic and prominent quality for personmetonymies. Some descriptive name signs in ASL rely on only the latter metonymy. For example, an interesting name sign for one adult deaf person in New Mexico depicts a bandage stuck onto an arm. The sign is produced by tapping the extended index and middle fingers twice on the forearm. People who initially meet this deaf man do not automatically understand why his name is produced in this way. The sign's handshape is the same as that which represents the fingerspelled 'H' or 'U' (depending on orientation of the hand), but neither this person's given nor surname begins with these letters Wilox et al (2004: 151).

According to Wilox: in ASL in some cases, it appears that the name sign may originally have been a complex metonymic chain in which the handshape was derived from the name of a prominent person who lived in the city: first letter of written name for person, person for city in which s/he lived. Thus, the name sign for San Antonio, Texas, is the letter G touching the cheek.

## **2.5. The Study of Meaning and Dictionary Making**

Meaning is central to dictionaries. The reviewed literature mentioned in preceding section focused lexical semantic relations is the particular relevance to lexicography. Below we shall overview lexical semantic relations and its treatment in dictionary making/lexicography.

The ideas and concepts reviewed in the preceding sections on semantics and lexical semantic relations largely drawn from spoken language as well as sign language are found to be relevant to lexicography because they provide useful lexical semantic information as meaning is central to the art of dictionary making. However, it is not previously noted on how lexical semantic relations may apply in dictionary making.

Dictionaries contain seas of lexical entries. They contain the necessary information of these lexical items, from phonological to syntactic, from stylistic to semantic, and also the way in which these lexical items are fit into the language system (Leech,1974: 221). Semantics is defined as the study of meaning of which most linguists cast no doubts on stating the word 'definition' and 'meaning' as well as the phrase 'lexical entry' and 'lexical item' will be used interchangeably which refers back to the semantic aspect of words.

We use a dictionary as the ultimate authority about whether or not a word actually exists in our language. This creates an impression that the dictionary definition captures all that we need to know about a lexical item's meaning and use. It is important to remember, however, that lexicographers create dictionaries by collecting information about how a word is used in a particular language community.

In the case of signed languages, it is the community of signers that determines the meaning of a particular sign. The meaning of a sign listed in the dictionary reflects what signers use it to mean (Johnston and Schembri, 2007).

Dictionaries for sign languages may be organized to reflect the linguistic structure of the sign language; they seem to be almost necessarily bilingual. That is, in addition to providing an inventory of the signs in a sign language, sign language dictionaries almost always also provide written glosses for the signs in the language of wider communication in which the sign language is used (Valli et al., 2005). Stokoe's Dictionary of American Sign Language was an exception because it did not present the signs by an alphabetical list of their English glosses, but rather by the parameters of location, handshape, and movement. The potential problem with bilingual dictionaries is that the same sign may have different English glosses assigned to it or different signs may be assigned the same English gloss. Therefore, the meaning of the sign may not always be clear from the gloss assigned to it.

A number of dictionaries of sign language are now available, and most of them attempt to record the meanings of signs used in their respective deaf community. Thus, it is clear that dictionaries and dictionary-makers do not determine the meaning of signs in most sign languages, or words in respective spoken languages. This seems due to lack of semantic descriptions in sign languages in relation dictionary compilation.

Regarding the contribution of semantics to lexicography, Frawley (1993) states that "Semantics is to lexicography what economics is to accountancy". Commercial considerations aside, however, most lexicographers would argue that a good dictionary is the ultimate test of any theory of lexical semantics; they sometimes become impatient with criticisms from theorists who have never worked as lexicographers. It is probably possible for theoretical semantic insight to go hand in hand with lexicographic practice: a shining positive example is the original meaning whose

relative success suggests that co-operation, or even integration, between semantics and lexicography is possible, as evidenced in Mel'cuk's work (1974; 1981; 1988).

It is important to emphasize that semantic theory has the most to contribute to dictionary making at the level of the micro-structural analysis and description of lexical meanings where it has to offer solutions to a number of vexing questions.

In the phase of semantic modeling lexicographers pay special attention to uncovering relations between accepted concepts. This activity has traditionally been regarded as a stage following the establishing of relevant concepts. The reference works can be considered to show semantic aspects which serve the improvement of the process of learning. Although general purpose dictionaries are characterized by shallow hierarchical structures, owing to the ambiguity of units of the underlying general language lexicon and professional dictionaries tend to have deep hierarchical structures when constructed on special language lexicons (Cabre Castellvi, 1994).

The instances of semantic modeling for dictionary making mark the tendency to follow in general lexicography trend set by authors of specialist dictionaries (Pearson, 1998), where an increasing number of semantic relationships are mirrored to help learners understand the subject. While specialist dictionaries may differ in terms of their complexity, they are typically characterized by deep structures. With a growing number of lexicographic works released both in print and online, markers of semantic relationships used as didactic aids are gaining new ground and recognition. This study mainly focuses on how semantic relationships and related aspects are tackled in EthSL dictionary.

According to Naughton (2001), many dictionary entries suggest number of meanings of a single sign, some of which are not synonymous and many are not even the same grammatical category that may complicate matter. Take, for example, the entry for one sign which is glossed as PREDICT, FORECAST, FORESEE, FORETELL, OMEN, PROPHECY, PERCEIVE, PROPHET, FORTUNE-TELLER, and PERCEPTION; to her, that is blatantly incorrect. She also suggests, if one adheres to this definition, verbs and nouns have an identical form. In fact, PROPHET is signed with an additional agent marker. PROPHECY is signed with a double forward movement, indicating its status as a noun. In addition, PREDICT and PERCEIVE are not synonymous and the same sign is not used for both concepts. This is not an isolated case, but is pervasive throughout (the dictionaries). She found the information provided by ASL/English

dictionaries to be misleading. The consequence is that second language students cannot depend on dictionary information in aiding their vocabulary acquisition.

It would be helpful if signed language dictionaries contained added senses of lexical items and provided explanations as to the differences among the forms, similar to those found in many monolingual and bilingual spoken language dictionaries. The ability for a particular sign to add aspect, to incorporate subject and/or object, or to be represented by a classifier is also information which would make the dictionary more comprehensive and benefit the reader (Naughton, 2001).

### **2.5.1. Sign Language Dictionaries**

According to Crystal (1997, 108), a dictionary is a reference book that lists the words of one or more languages, usually in alphabetical order, along with information about their spelling, pronunciation, grammatical status, meaning, history and use. However, dictionaries not only present the words of a language and their meanings but also have sociolinguistic functions. Even though most dictionaries claim to be descriptive and not prescriptive, users often regard them as authoritative and standardized.

Schmaling (2012) mentions some important motivations for making a dictionary of a language include the following: documentation of a language, which may serve different purposes, including these: people's need to obtain more information about a language, the need to have a resource and research tool, the need to protect and preserve a language that is under threat from (an)other dominant language(s), recognition of a language, legitimating a language, or confirming the status of a language, standardization. According to Johnston (2003), this is the prime motivation for making a dictionary.

The publication and production of sign language dictionaries also developed in different countries as their national sign language dictionary for different reasons. However, Schmaling (2012) states the most important reason for making sign language dictionaries has been to show that sign languages are bona fide languages like any spoken language. This aspect of demonstrating that sign languages are “fully developed,” “real” languages and not gestures or pantomime has been particularly important for deaf people. In fact, if one looks at the introductions to sign language dictionaries, authors always seem to feel the need to emphasize that the language they are documenting is indeed a language.

In Ethiopia, showing that EthSL fully developed language is even more important. According to Schmaling (2010, 2001), in many African countries, foreign sign languages have been imported from the United States or Europe and are often regarded by deaf people as “real” sign languages as opposed to their own indigenous “local” sign languages. The latter are often regarded as merely gestures or unrefined sign systems. This may be a result of the fact that international sign language publications available to deaf persons in Africa are very ASL-centric. EthSL dictionary contains both ASL imported and indigenous local signs however it seems no clear cut to distinguish all sign entries in this matter.

Sign language dictionaries are usually (at least) bilingual and unidirectional; that is, they present pictures of the signs and use the written form of the (majority) spoken language for the translation (or glossing) of the sign and perhaps for explanations of sign performance (“pronunciation”), etymology and variation, definitions of meaning, and example sentences. However, many dictionaries comprise only sign pictures (drawings or photographs) with their gloss translations but with very little other information: “Whatever the reason, there are very few sign language dictionaries which provide the range of information we typically expect in a spoken language dictionary” (Brien and Brennan in Schmaling 2012).

The lack of a writing system and of a sign language alphabet also raises the question of how to arrange the signs in a dictionary. Several possibilities of sign order exist. In many of the printed-media sign language dictionaries, signs are listed according to the key glosses or translations of a sign (i.e., they are sorted according to the alphabet of the glossing language). To many lexicographers, this has seemed the easiest way to arrange signs, often for reasons of simplicity and familiarity (Cleve in Schmaling 2012).

However, this alphabetical order poses several problems: First, one has to decide which language should be used as the second language in the dictionary. Second, even though alphabetical order may be the best way to access the dictionary for hearing users who are acquainted with this, it is not really useful for members of the deaf community who are not confident of their written-language skills. Alphabetically arranged sign language dictionaries clearly do not have deaf people in mind as the target user group.

There are also other possibilities to arrange signs according to one of the parameters that make up a sign. This is the method Stokoe and his colleagues chose for their ASL dictionary in 1965. Other

method of sign arrangement is to use sign language linguistic criteria for arranging signs in their dictionaries. In the dictionaries that use sign language linguistic criteria, the authors have usually opted to arrange signs according to handshapes or handshape groups. In the Thai SL dictionary, signs are arranged according to so-called handshape roots. However, handshape order may also be problematic, as one has to decide how to arrange handshapes.

Finally, signs can be arranged in thematic order: This means that the entries are arranged according to topics. This order seems particularly useful if aimed at users who are not acquainted with using dictionaries and with alphabetical order, and many deaf associations in Africa have chosen this approach. It is useful for students in literacy classes, people who are not fully competent in the written language, but also for sign language learners.

Scio-linguistically, each sign language whether it is national or local has different variants. Social factors that lead to sociolinguistic variation include age, gender, region, ethnicity, religion, education, and socioeconomic status, as well as hearing status and age of onset of deafness. Variation can occur on different levels: on the phonetic/phonological level (e.g., the use of different handshapes or movements in a sign), on the lexical/semantic level (different signers' use of different signs for the same meaning), and on the grammatical/syntactic level. Dictionary compilers always have to make choices; they have to decide which sign (and which variation) to include in a dictionary. By doing so, they therefore also define some kind of standard. In spoken languages with orthography, the written form is often regarded as the "standard" form of the language. This standardized form is usually associated with power, prestige, education, and literacy: Other variants are considered incorrect, wrong, illiterate, or substandard and are stigmatized or even discriminated against (Milroy and Milroy, 1999; Landau, 2001; Johnston 2003 cited in Schmaling 2012).

### **2.5.2. Sign Language Dictionary Compiling**

**Authors, Compilers, Publishers:** Many sign language dictionaries are compiled and published by Deaf National Associations, and only a few dictionaries are compiled by individuals (Schmaling, 2012). In many countries, the dictionary compilation is not based on linguistic research, but consultants with a linguistic background are often involved to assist with some of the linguistic aspects of dictionary making (Schmaling, 2012).

**Reasons and Aims:** it is important to know why and for whom a dictionary is produced. The size of the dictionary and the way signs are arranged in it depend on the target group and its reasons for using the dictionary. In many of the dictionaries of African SLs, the authors state that their aim is to show that their language is a “real” language that is used by deaf people in the same way that spoken languages are used by hearing people. Ashipala et al. in Schmalting (2012) explain the reasons for preparing the dictionary of Namibian Sign Language (NSL) as, “We want people to know that NSL is a real language like Oshiwambo or English. We want Deaf Namibians to be proud of their Deaf culture Dictionaries of African Sign Languages and sign language, and we want hearing people to respect our culture and our sign language.”

The authors want their languages to be recognized as “full” languages and feel that documenting them in dictionary format is an appropriate way of doing this. Recognition of sign language as a full-fledged language is also stated as a reason. It is interesting to note that the dictionary in Uganda was published in 1998, three years after sign language was recognized in the Ugandan National Constitution. Other reasons authors give for publishing a dictionary are the development and documentation of the language. Apart from the goals of legitimizing, documenting, and developing the languages, authors and compilers of dictionaries of African SLs see a need for more effective communication, particularly for those who live and work with deaf persons (e.g., family, friends, teachers, medical personnel, judges, employers), as well as the general public (Schmalting:2012).

**Data Collection and Selection of Entries:** most dictionaries provide little or no information on how and by whom the data were collected. However some dictionary gives detailed information on this. Schmalting mentions that authors of Namibian sign language dictionary used videotaped stories and signed discussions that were transcribed and then translated into English as their data. To him, the structure of each sign (manual and nonmanual) was analyzed and described. He also points that South African Sign Language dictionary; eleven deaf representatives discussed every sign with their communities and decided on the appropriate variant. According to him, the variations were videorecorded at regular meetings of these representatives and the process of selecting the representatives of the variants and that of selecting signs and choosing the appropriate variation for the dictionary are described in detail. Many dictionary authors emphasize that they are presenting only a small set of signs and not an exhaustive collection. Many compilers state that

dictionary making is an ongoing task that more entries are required, and that entries may need to be modified.

**Structure and Content Sign Language dictionaries:** the structure and content of the dictionaries consists the format and size of the dictionaries, their general structure (mega-structure), the order of signs (macrostructure), and how each entry is organized (microstructure). These points are mainly focused for this study in relation lexical semantic relations.

**Format and Size Format, Number of Pages, and Signs per Page:** sign language dictionaries are prepared in different format size. Most sign language dictionaries are A4 format size. According to Schmaling 2012, each page of the sign language dictionary has from three to twelve sign illustrations. Some of the dictionaries have sufficient space for each illustration, and the pictures are very clear and some have very small illustrations that are difficult to discern. The South African sign language dictionary presents only one lexeme per page, but each one may have up to twelve variants, each with an illustration. In some dictionaries half of the space on the page is reserved for explanations of sign performance, usage, and/or etymology. The number of signs in each dictionary varies greatly.

**General Structure (Megastructure):** refers to “the totality of the component parts of a reference work” (Hartmann and James 1998, cited in Schmaling 2012), includes, in addition to the macrostructure, all front and back matter (i.e., introductions, a user guide, abbreviations, indices, bibliographies, and appendices). All dictionaries Schmaling has reviewed comprise more than just the macrostructure and all have some kind of introduction, even if brief; many include some user guidance; and almost all have at least one index. Some longer introductions include a variety of information such as explanations of data collection and/or sign elicitation and sometimes also the choice of informants. It includes information on the structure of sign languages often not an introduction to the particular sign language but to sign language structure in general.

**Macrostructure:** is defined as “the ordered set of all headwords” (Hausmann and Wiegand, 1989: 328); it is the basis for arranging words in the dictionary: In spoken languages, this is typically in word-initial sequence (e.g., alphabetically) or in a systematic sequence (e.g., thematically); in sign languages, the way entries may also be arranged (Schmaling, 2012).

Schmaling mentions that few dictionaries are arranged according to sign language linguistic criteria: For example: the Namibian SL dictionary (1991) contains forty different handshapes, and

within each handshape section, the signs are grouped according to meaning. Signs that involve a handshape change are arranged at the end of each section according to the initial handshape. Signs are grouped into different classes, namely “simple” signs (signs that never change) or “complex” signs (signs that appear in different forms depending on the meaning). The authors define three classes of complex signs, which they label as “indicating verbs,” “locative verbs,” and “classifier verbs.”

Entries in many sign language dictionaries are arranged thematically categorized. As these are designed for literacy classes for Deaf people, some thematic fields appear in one sign book and are used again in another with additional signs. The authors give no reasons for choosing this order, but it is probably the “easiest” arrangement for a large corpus of signs. Thematic order in larger corpora may cause problems because some signs may be difficult to classify, the categories may not always be clear or may overlap, and some signs would need to appear in several thematic areas. Thematic groups are classes of topics, which may include food and drink; countries (or places); animals; family and relationships; times (sometimes months, weekdays, etc., are listed separately), medicine and health; nature; religion; and colors. The reasons for these thematic groups are neither obvious nor stated, and the order of the groups is neither visible nor explained. “other expressions” in the Tanzanian SL dictionary, “miscellaneous nouns” and “prepositions and other useful words” (prepositions, conjunctions, signs for greeting, etc.).

Schmaling (2012) states that in several dictionaries some of the groups are not based on themes but on grammatical function such as “nouns,” “verbs,” “adjectives and adverbs. Several factors explain the prevalence of thematic order in these dictionaries. The authors of the dictionary state that, for a specific topic, only a limited vocabulary can be used immediately and that signs within a thematic field share many features that make it easier to remember them. Similar reasons for choosing this order could be given for dictionaries that target sign language beginners. Another important reason for thematic order is that many people (both deaf and hearing) are not accustomed to using a dictionary. For these people, this is often the most convenient arrangement.

**Microstructure:** is an important part of this study in relation to lexical semantic relations. It is the arrangement of information within one entry in a reference work (Hausmann and Wiegand 1989, 344). In most sign language dictionaries an entry consists of a sign illustration and at least one sign translation. This arrangement reflects the purpose and the intended target group. As many of the potential users of these sign language dictionaries have little knowledge of the written language,

they will not be able to read longer texts. Moreover, the compilers themselves often have limited written-language skills. Few dictionaries contain additional explanations of the illustrations. These short descriptions of how to perform a sign, regional variation, and/or etymology are in the written form of one or more spoken language(s) (ibid)

**Sign Illustrations:** Schmaling, (1912) states sign illustrations for the user of a dictionary to understand a sign (and to be able to reproduce it), it is important to know what the hands, body/head, face, and mouth are doing as all of these contribute to the meaning of a sign (i.e., one should be able to clearly see the different manual and nonmanual parameters that make up a sign). For illustrations of signs in printed-media dictionaries, the authors usually include either photographs or line drawings. Both lack clarity and are often ambiguous, especially with regard to the dynamic features of a sign (e.g., movements of the hands, the body and head, and the mouth). Other non-manual features are also often not clearly visible. For movements, dictionary designers sometimes use arrows, but it is often difficult to understand what an arrow means in a two-dimensional picture. Generally, it is a problem of using a two-dimensional medium (printed books) for a language that is performed in three-dimensional space.

Most sign language dictionaries illustrate the signs; some sign language dictionaries also use photographs. These photographs are often of poor quality, which makes it difficult to understand how a sign should be performed. The photographs in some sign language dictionaries are rather small and dark. In all dictionaries with photographs, arrows indicate the movements in the signs. However, sometimes drawings are also not easy to understand. In some sign language dictionaries, only the head or the hands or both the head and the hands are illustrated.

The language used for most sign language dictionaries, which is often the official language of a country. Thus, there is no need to decide which language should be used for the translations or glosses. The Namibian SL dictionary (1991) differs from the others in that it does not use glosses or translations for each sign but instead provides the meaning in Oshiwambo and English (Schmaling 2012).

**Information on Sign Performance and Etymology:** The dictionaries offer little information on how to perform a sign. Only some dictionaries contain this kind of information. some of the same sign language dictionaries explain the performance of compound signs by describing each part of the compound, whereas the signs are depicted in a single drawing. For example: according to

Schmaling (2012), the South African sign language dictionary differs from all the others in also presenting information on the grammatical category of each sign/word, on the stage at which this sign would be learned and used, and on the semantic field. Each sign has an example sentence.

**Variation:** in most dictionaries, the compilers do not explain how the data were collected and elicited and how they decided which variant to depict in the dictionary. Only a few dictionaries have notes on where the signs are from and who uses them. Ashipala et al. (1994, 345) state that they “decided which sign was used by most people and which signs were accepted as variants by most people.” Some dictionaries mention variation and present one or several variants of a sign. An exception is, of course, the dictionary of South African sign language dictionary, whose aim is to portray sign variants from around the country. Each entry comprises maximally twelve variants of a single sign. Most dictionaries were compiled in the capital, mostly by deaf people working with or otherwise associated with the deaf association. The signs in the dictionaries are those used in the capital and within the deaf associations.

The experience of several sign language dictionaries is through The collection of signs only from the capital and its surroundings may be problematic because the sign language presented and declared as the “standard” form is often heavily influenced by foreign sign languages (Schmaling: 2012). Often, the signs used by this group of people differ from those used by the wider deaf community outside the capital. In fact, people in rural areas who have no (or only sporadic) contact with the deaf association, who have not been to a deaf school, and who therefore have had no opportunity to learn the urban variety will use a completely different set of signs. As a result, signs for local foods and other cultural vocabulary are missing or are presented as finger-spelled or initialized signs.

Sign languages often exhibit significant variation, and most signing communities have no highly valued, widely recognized, and preferred variety (Lucas 1989). In those that do, the preferred variety is usually associated with forms of signed language that are heavily influenced by the spoken language in its written form (Johnston 2003, 438). The main challenge for lexicographers is what to do with these variants. In the ideal case, all variations should be collected and also presented in a dictionary because choosing one variant brings about the devaluation of other sign varieties. However, presenting all of the variations is usually unfeasible. It is, however, important to show some variation and to collect signs from different regions with people of various ages and

diverse social and educational backgrounds. If signs from only one region or one particular group are presented (e.g., “educated” deaf people or “young” deaf people), the signs may not be accepted or may be regarded as wrong, which may lead to the rejection of the dictionary as a whole.

### **2.5.3. Lexicography and Lexical Semantic Relations**

Lexicography is an applied discipline under linguistics because the practical problems of lexicography are solved by the application of linguistic analysis. In the entire work of lexicography, such as, the selection of entries, fixation of headwords, the definition of words, arrangement of meanings and entries, the lexicographer is helped by the work of different branches of linguistics. The historical linguistics also helps in tracing the origin and development of the form and meaning or denoting the temporal status of words (archaic, obsolete etc.). Status register or stylistic labels (slang, jargon, taboo, formal, vulgar etc.) are decided with the help of sociolinguistic and stylistic studies (Fodor, 1977). It is not only the findings of linguistics that helps in the solution of lexicographical problems, but the lexicographical analysis are also equally utilized by the linguists to solve the problems related to the study of language. The linguistic theories are quite important for the lexicographer but practical utility is more basic and for this reason, very often a lexicographer tries to solve the problem on his own. In general, lexicography has been generally defined as the writing or compiling of a lexicon or dictionary or the science of the methods of compiling dictionaries (Zgusta, 1973:14).

The lexicographer tries to describe and explain the vocabulary of a language or language variety by reference to a theory which allows him/her to account for the various semantic relationships in which lexemes take part. Only some lexicographers are in the position of attempting complete coverage of the total vocabulary of a language in all its aspects. Most dictionaries are the result of a deliberate selection.

More detailed and explanatory lexicographic information on semantic aspects is also of interest to native speakers. A good depiction of the paradigmatic of a word or sign is itself part of the description of its meaning and use, as sense-related items contribute to semantic identity and determine a lexeme in semantic-pragmatic as well as thematic and discursive ways (Cruse 1986). Notwithstanding the presentational problems and the absence of explanations on the appropriate

use of synonyms/antonyms/polysemy/homonymy and metonymy, some of the information given as such is misleading (Cruse, 1986).

A good dictionary is one comprehensive context-dependent presentation of paradigmatic semantic relations including a system of cross-referencing which exhibits lexical structures and the interrelatedness of words/signs within the lexicon. A detailed account of the paradigmatic of a lexeme is given for specific senses, comprising all types of horizontal and vertical structures respectively (Cruse, 1986).

The lexicographer analyses all the contexts in which a lexical unit occurs and by comparing the different usages similar and dissimilar in different contexts he/she extracts the different meanings. From the total semantic range he/she examines the word in a particular context and finds out that in such and such situation a word has such and such meaning. Hence, the major and most important task of the lexicographer is to find out the different meanings of a word and present them in a dictionary. For the arrangement of meanings the basic meaning may be given first and the related meanings may be grouped together on the basis of their logical relationship. The arrangement of these meanings is governed by the type of the dictionary (Lyons, 1968).

Polysemy is the change in the general semantic structure of a word. Thus, the lexicographer has to study and analyse the interrelation and interdependence of its different meanings in the semantic structure of a word, while dealing with polysemous words. The determination of the primary / central / dominant meaning is a basic problem faced by the lexicographer. Among different criteria to find out the basic meaning, one commonly used and widely accepted criterion is etymology (ibid).

For homonymy, while treating homonymy the lexicographer has to keep in view the different types of homonyms where there may be total identity in all forms of a paradigm and its collocational possibilities and may be only partial. The lexicographer also has to see if the difference in the meaning of these words is only lexical or also grammatical. Some dictionaries treat polysemous words occurring in more than one part of speech, as homonymous and give separate entries for them; such cases are called partial or grammatical homonyms. Here the words have the same canonical form but different paradigms and structural patterns. The lexicographer should look at homonyms from the point of view of their origin. Homonyms come in a language because of the convergent phonetic development of two or more different lexical units, divergent sense development of polysemous words and borrowing from different languages (Lyons, 1968).

One of the most controversial points in semantics having a direct bearing on lexicography has been the differentiation between polysemy and homonymy. In polysemy the meanings are related from two points of view-historical and synchronic, in homonymy the meanings are not related. But the distinction between polysemy and homonymy is very uncertain and as observed by Lyons (1968, 406). So a lexicographer has to depend on etymological evidence, if available, or on the interpersonal impressions of the native speakers.

With regard to synonyms in dictionary, according to Lyons (1968:437), a lexicographer has to observe the distribution pattern of synonyms. To him, even if synonyms are interchangeable in some contexts, there is a difference in their syntactical valances and some of them have different paradigms. While analyzing the synonyms a lexicographer would see that the principle of synonymy cannot be applied to polysemantic words, because two words may be synonymous in some of their meanings, but all the meanings of two polysemantic words cannot be synonymous. The occurrence of complete synonyms in a language can further be tested by assigning antonyms to them. Generally 'absolute synonymy is an extremely rare occurrence, a luxury that a language can ill afford (Lyons 1968, 437). A lexicographer deals with synonyms in monolingual dictionary for equating lexical units. The synonyms can be discriminated by analyzing their different semantic features and usages.

According to Langer et al (2017), alleged synonyms occur in common contexts but are not interchangeable due to semantic or discursive constraints which are not elucidated in a dictionary. The examination of concordances may need for lexicographers to enables them to discover differences in use. Semantic and syntactic restrictions as well as variation in register of sense-related items are incorporated in a dictionary entry. They refer to different kinds of constraints or are additional general lexicographic explanations and substantiations and are specifically designed to meet special needs of language learners.

Since most dictionaries limit themselves to the description of one or the other type of sense-relation (either synonymy or words of opposition), the phenomenon of alternating relationships is not represented. Besides the synonymous characteristic which is established between two lexemes and their senses, there are also a number of contexts where they manifest a different sense relation, sometimes even a relation of contrast. Some synonyms are, for example, more frequently used

contrastively than in substitutable contexts, or there is also a causal relationship between supposedly synonymous items (Langer et.al., 2017).

Another type of meaning relationship is antonym which broadly signifies the oppositeness of meaning. With regard to antonyms, the lexicographer may view the relationship denoted by antonym may be analyzed in terms of oppositions and contrasts in the meanings of the following types: i) Extreme opposites where the words have positive and negative features of meaning, ii) Polar opposites where the contrast can be explained in terms of scales running between two poles and iii) Incompatibles where the relation of meaning is exclusiveness and not of contradiction.

Cruse (1986) notes that when opposites do not express contrast what is generally termed antonym in lexicography, is restricted to gradable adjectives in semantics. Cruse extended to state that antonymy in its stricter sense, the most salient types of opposites are complementariness, reversives and incompatibles, all of which are comprised as antonyms in dictionaries containing terms of contrast. In a considerable number of cases, however, neither contradictory nor contrary words but terms which designate "cause and effect" events are listed as opposites irrespective of their absence of contrast. These are typical pairs that look at the same state of affairs or event from different perspectives, *give -take, ask - answer*, and undoubtedly there is a close relationship between these terms. Pairs like take-give are termed conversives and they are not in direct contrast with each other but in a reciprocal relationship (Cruse 1986).

#### **2.5.4. Semantic Description of the Lexical Unit in Dictionary**

The semantic description of the lexical unit is one part of dictionary entry given by lexicographers. The various methods of giving meanings to the lexical units are description and definition of the lexical unit, equations, illustrative examples, illustrative pictures, glosses, etymology, cross references and labels. All these different mechanisms are not required for all types of lexical units however; it is always useful to define a word in more than one way. The lexicographer has to define his/her words/signs in the socially accepted meanings. The lexicographer has to keep in his mind the historical, social, cultural, mythological and folk-lore traditions of the speakers or signers of a language in addition to linguistic and extra linguistic definitions of words/signs.

For polysemous words, the synonyms can be given with different meanings and sub-meanings. Synonyms also help in defining the overlapping areas of meaning. Unfamiliar and learned words

could be explained by their common and basic counter parts. The meaning of obsolete, archaic and rare words is given by contemporary and common words. The meanings of dialectal and stylistic variations are given by words of similar meanings in the standard language and the stylistically neutral synonyms. Synonyms are used for discrimination of the senses of polysemous words (Cruse 1986).

Illustrative pictures are given along with the verbal definitions, examples etc. to further clarify the meanings of the lexical units. Generally the flora and fauna, cultural objects, unfamiliar objects in the culture of the language community and objects of daily use - require pictures to enable the reader to understand the object clearly. Besides pictures, lines, drawings and diagrams etc. can also be given in addition to the verbal definitions. The pictures should be as simple as possible. Illustrative pictures can be given in all types of dictionaries. But it is very helpful indeed especially in learner's dictionaries, children's dictionaries and dictionaries of tribal languages(Cruse, 1986)

Glosses are given in the definition to show the meaning in more concrete way. These are short comments or some remarks showing syntactic or semantic characteristics of the lexical units and are used in place of examples. They are usually given in brackets with the definition and it is a device of saving some space in the dictionary.

Cross reference is used in the dictionary to show interrelationship between lexical items of a language in terms of their similarity, contrast and complementary. Cross reference given in a dictionary can be broadly grouped into two groups: explicit cross reference is a clear direction is given to the reader to look somewhere else for some information and implicit cross reference is defined lexical unit in which a word already defined is used in the definition of another word. The different methods and purposes of giving cross reference in a dictionary are: when a lexical unit has variations, the more common among the variants is given as the main entry, at their alphabetical place the irregular forms have a cross reference to the main entry, for polysemous words cross reference is used for some meaning common to two polysemantic words, it is used for semantically related words, the use of synonyms in a definition is also a type of cross reference, the antonyms used in a definition is also a cross reference, dialectal variations of the lexical units are cross referenced to the standard words, Archaic and obsolete words are cross referenced to the current words for meanings and other details. In order to avoid circularity in reference, a cross reference is usually made to a lexical item that has preceded the item under consideration.

With regard to labels, the general lexicographical practice to show the peculiarity of lexical items is to put some labels either with entry word or with a particular meaning. To indicate the variations in the language, whether temporal or regional or of usage and style, the lexicographer has to use some labels. Labels are decided in the beginning of the lexicographic work and it can be broadly defined into three groups as functional, subject and status labels. Functional labels are used to indicate the parts of speech of the lexical unit; subject labels indicate the special subject field of a particular lexical unit while status labels are used in respect of usage of a lexical unit.

Labels are basically descriptive, but in a normative dictionary it has become prescriptive. Labels are definitely not permanent, because there is always a change in the status of the words in respect of their usage and meaning. The labels can be grouped into different types on the basis of their characteristic features (Cruse, 1986).

According to (Cruse, 1986), temporal labels denote the currentness of its usage and spatial labels denote the geographical distribution of the lexical unit or its meaning; may be considered as regional and local. Besides these some other spatial variables are - international, national, individual. Words and meanings peculiar to certain castes, social groups and professions can be marked by their names, for example: Christian, Islamic, Law etc. Stylistic labels depend on the stylistic variations of languages, such as formal, informal and intimate. Some labels are based on style to indicate the figurativeness of use; they are generally concerned with the connotative meanings. Labels can also be denoted by the status of the speakers for example: standard, non-standard, etc. Labels can also be used to denote the frequency of the lexical units, for example: frequent, occasional, rare, etc.

Dictionaries containing meaning equivalents have a broad understanding of the term synonymy. As Cruse (2004: 156) notes "no one is puzzled by the contents of a dictionary of synonymy, or by what lexicographers in standard dictionaries offer by way of synonyms". A considerable number of most synonymies consist of semantically close items with meaning resemblance which share a large number of their semantic features (Cruse, 1986).

The major challenge facing lexicographers is the making of a clear and objective distinction between polysemous and homonymous lexical items which are entered as lemma in their dictionaries. Such a distinction is not always possible with all lexical items in a language. Lexicographers with little knowledge of the etymology of the lexical items in their languages will

have problems in entering polysemous and homonymous lexical items in their dictionaries, since they will not know the extent to which the lexical items are related.

In this regard, Lyons (1977: 550) notes as 'The difference between homonymy and polysemy is easier to explain in general terms than it is in terms of objective and operationally satisfactory criteria.' Lyons' statement shows that the distinction between polysemy and homonymy is more complex than is generally perceived. He gives two criteria to simplify the complexities of identifying polysemy from homonymy, i.e. the etymological criterion, and the relatedness/unrelatedness criterion.

In this study, we have attempted to show that dictionary investigations of lexical semantic relational patterns with respect semantic relations. A number of sense/lexical relations have not been studied in detail within a theoretical framework, let alone from a lexicographic perspective in sign languages. Through lexicographic investigations of semantically related signs one also recognizes the difficulties of allocating each relation to a specific sense or sub-sense.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

This chapter deals with the research methodology of the study. Thus, the research design, the research setting, the research population and sampling, the data collecting procedures, and the data analysis are thoroughly discussed.

#### **3.1. Research Design**

There are many ways of collecting and understanding information to conduct scientific research. Kumar (1999) distinguishes the different types of research as pure, applied, descriptive, exploratory, correlation, explanatory, quantitative, and qualitative. As the main aim of conducting this research was to investigate the description of semantic relations in EthSL and to find out how these relations were tackled in the preparation of the first EthSL dictionary published in 2008, the descriptive approach was chosen as the main research method. Hence, to describe and examine the lexical-semantic relations in EthSL, a qualitative descriptive approach which is customarily used in general linguistics, was also used in the present study.

#### **3.2. Research Setting**

The study settings were Addis Ababa and Hossaena. These two places were chosen due to the high concentrations of deaf people in them. The various social facilities such as education, employment, and better social and living conditions are thought to contribute much to the increment of deaf people in these towns. Practically, the more deaf people live in a certain vicinity, the higher they exercise sign language. By the same token, there had been remarkable practices of EthSL in the aforementioned two towns.

#### **3.3. Research Participants and Sampling**

As indicated above the research settings, Addis Ababa and Hossaena were chosen through the technique of availability sampling. And purposive sampling technique was used to select deaf people from the total deaf residents who lived in the two towns. The nature of this research fits the features of a descriptive qualitative study. Kim et al. (2017:1) claim that descriptive qualitative study "...is a widely cited research tradition and has been identified as important and appropriate for research questions focused on discovering the who, what, and where of events or experiences and gaining insights from informants regarding a poorly understood phenomenon." This type of study

often paves the way for conducting in-depth analysis based on a small sample size, and it is possible to generalize the findings within the sampled population. Therefore, taking into account only 7 male and 5 female key informants who could give the needed data based on their signing experiences were chosen purposively.

In studying ASL, Naughton (2001) and Janzen (1998) set criteria. According to them, signers were chosen to be recorded and engaged in the interactive interview if they, (a) consider the specific sign language as their first language (L1), (b) acquire that sign language before the age of 7, (c) identify themselves as Deaf members of the Deaf community; and (d) are considered by other members of the Deaf community to be generally representative of typical, culturally appropriate to the language signers. The above four criteria that Naughton (2001) and Janzen (1998) proposed were used in selecting the twelve (12) key informants. Twelve informants (six Deaf from Hossana and six Deaf from Addis Ababa) were involved in the data collection process. All the informants were using EthSL as their first language (L1), and they fit the rest three criteria mentioned through (b-d). Their age ranges from 18 to 35 years, and they all grew up either in Addis Ababa or in Hossana. They also attended their schools in either of the two towns up to and above grade 8. As the age gap indicates, due attention was given to average young participants because of their educational backgrounds and hoping for their attentiveness towards the practice and dynamism of EthSL.

### **3.4. Data Collection Methods**

The data were collected through interviews, observation, and video recording of narratives. Additionally, the EthSL dictionary was used as a secondary data source for the study.

#### **3.4.1. Interview**

Ethnographic interviews provide researchers with the opportunity to learn directly from language users. Spradley (1979: 173) notes, "...ethnography is the study of cultural meaning systems; it is the search for all the relationships among symbols, in this case, the folk terms used by your informant." He further states that a mere observation of a language is not enough. Then, he encourages the researcher to ask questions and interact with informants to explain meanings.

Harder(1997:119)also states, "What we ask about when we want to know the meaning of the word, is what its function is in the speech community." The informants' responses through personal interviews added extensions and usages that do not appear in the already recorded videos. In some cases,

informants explained the meaning through a 'folk etymology' an ordinary person's belief about the origin of a word or sign as well as giving additional instances. People who were not involved in linguistic research before generally do not know the origin of words or signs. Therefore, "the folk etymologies that people automatically and unconsciously come up with are real for them, not historically, but also psychologically" (Lakoff 1987:452). Wilcox (1993:85) further explains that while the folk etymologies produced by native users "may lack consistency among all the respondents," their explanations "are usually based on common facts as noted through the daily experiences of the people who share a language and a culture." Folk etymologies, then, are heuristic. By taking note of the etymologies provided by informants, patterns may emerge that reflect the cognitive and psychological reality of the signs to the signer.

Thus, the interviews with members of the EthSL linguistic community made it possible to document the subtle distinctions between semantically related signs as they are used in natural language interactions. The interviewees were also asked to judge lexically related signs by providing other similar examples.

The participants were engaged in an interactive interview with the researcher about what makes signs in EthSLenable to form relations. While the interviews were going on, the researcher asked the participants to give examples of semantically related signs in EthSL. They were requested to provide related signs; to avoid possible confusion, attempts were made to explain to them semantically and systematically related signs in line with applied criteria and definitional concepts. They were also encouraged to extend the same examples of lexical-semantic relations by showing them pictures of some lexical relations in established sign languages such as ASL, Auslan, and JSL. Furthermore, some sign pictures of established ASL were also used especially while describing polysemy and synonymy notions of EthSL. These interactive interviews were recorded and still-sign pictures were taken.

### **3.4.2. Observations**

Some of the data were collected through observations; this was especially done when the researcher was attending informal communications among participants. The researcher's repeated observation of the informant's interactions during their informal gathering helped her collect semantically related signs that relate to the conceptual definition of each semantic lexical relation. Informant observation is an ethnographic research method for qualitative research work, and usually, it helps the researcher control the data collected from the interviews; it is also the more structured means of soliciting information (Schilling, 2013). The researcher met these selected deaf signers during informal

schedules or church programs. During observation of the signing community, the researcher took notes concerning lexical relations (by looking into how signs semantically related to each other in the notions of polysemy, synonymy, antonymy, homonymy, and metonymy).

### **3.4.3. Video Recording**

Researchers in sign language make use of videos, still photographs, and note-taking as the means of collecting sign language data. The video sessions engaged signers of EthSL to record their narratives; then they could extract the signs which helped them to search for the occurrence of semantically related lexical signs from the video they recorded. As mentioned above, in this research video was used to collect data. Six participants out of twelve (three from Addis Ababa and three from Hossana) were recorded while they performed different narratives. The lottery method was used to select the six participants. Detailed analyses were made on the data, which were taken while the selected participants were demonstrating the narratives. However, before the analysis, the researcher carefully identified the recorded signs that fit the notion of semantic relations. Moreover, the necessary efforts were made to consult informants concerning the extracted data before embarking on the analyses. At the end of each session, the videos were annotated using the Microsoft movie maker to find out some illustrated signs that were considered semantically/ lexically related. The researcher also used the Microsoft Movie Maker application on Microsoft Windows to transcribe, annotate, and edit the recorded videos for the study. It is also good to note that this study is entirely devoted to the lexical-semantic analysis of EthSL. Grammatical issues of EthSL were not addressed throughout the study.

All the still photos were taken from the videos. The researcher herself has used EthSL as her first language (L1). This, in turn, eased the burden of translating the collected signs into written English. Lexical signs were extracted from the elicitation data and then only potential semantic-related lexical signs were identified for analysis.

The data from the videos were identified and analyzed in line with the theoretical framework and the criteria indicated in the sections above. Signs that were regarded as semantically related lexical signs based on the stated criteria and conceptual literature shown above were selected for further analysis.

These theories and definitions applied for this study include basic definitions of polysemy provided by Lyons, (1977) and Palmer, (1976). Attempts were also made to take important lessons from the examples above on polysemous signs in Auslan (by Schembri and Johnson 2007), JSL (by Tomita 2012), and ASL (by Valli 2005) with traditional definitions. The commonly referred definitions of synonymy and applied the principled criterion of Apresjan (1957: 87) and Lyons (1975: 61) were used to identify and describe synonymous sign patterns in EthSL. In addition, due considerations were also

given to learning from the traditional definitions of antonymy by Lyons (1977) and Egan (1968), factors determining antonyms by Lyons (1977), and the two criteria used by Cruse (1986). Furthermore, Lyons' (1977) and Cruse's (1986) classifications of antonyms were used to classify them (antonyms) accordingly.

Palmer's (1982) definition of homonymy and Lyon's (1977) criteria to distinguish homonymy from polysemy signs were used to analyze and describe homonymy signs in EthSL. Despite all these, studies show that there is no clear-cut difference between polysemy and homonymy. Finally, to identify, categorize, and describe metonymic signs in EthSL, Lyon's (1977), P. Wilox's (1993, 1998), and Taub's (1997) definitions of metonymy were implemented in the study.

#### 3.4.4. EthSL Dictionary Analysis

Ethiopian Sign Language Dictionary (EthSL) was used as a secondary data source for the study. A total of sign entries available in the dictionary were investigated and analyzed. This helped describe the treatment of semantic relationships among the sign entries of the dictionary. In doing this, the researcher able to verify how lexical-related signs were tackled in the dictionary.

<b>Date of Publication</b>	<b>Title</b>	<b>Number of Sign entries</b>	<b>Languages used in gloss</b>
2008	Ethiopian sign language dictionary	1032	Amharic and English

Table 1: Description of EthSL Dictionary

EthSL was published to overcome the limitations of the number of sign entries in the previous EthSL book. EthSL dictionary comprises approximately 1032 sign entries. It is organized per the thematic groups of sign entries, allowing users to search for a sign that they recognize its meaning. These thematic groups have arranged the signs into categories: i.e. signs for various foods and drinks, fauna and flora, education, politics, general signs, places' names, etc. The back of the book contains an index of Amharic words, the thematic groups the words included, and the page on which the EthSL sign can be found. However, there is little description of the signs or their meaning.

In the EthSL dictionary, readers can look up an Amharic word to find the corresponding sign. The

only way to discover the meaning of an unfamiliar EthSL sign is by searching through the dictionary page by page, looking at each picture until one finds the sign. This time-consuming situation is one of the limitations of the dictionary.

Since the signed languages are visual and do not have a standard written form, the spoken language is used as the base to indicate how the search takes place. For example, in an EthSL/Amharic dictionary, words are listed in Amharic alphabetical order similar to a monolingual Amharic dictionary. Corresponding to each Amharic term, there is commonly a photograph of a signer demonstrating the sign, with arrows showing any movement required to produce the sign. Thus, each entry has a graphic illustration of a person demonstrating the sign, along with a description of how to produce the sign. In the EthSL dictionary, the sign entries do not show the corresponding sentences. On the other hand, the EthSL dictionary like other sign language dictionaries provides readers with a memory aid to make them remember how to produce that particular sign. Figure 6 below is a good example of this.

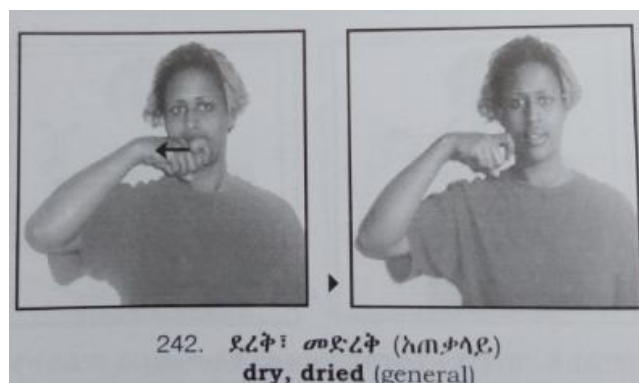


Figure 6: sign illustration for EthSL 'dry', 'dried'

As the above figure is taken from EthSL show, it is tried to help readers remember how to produce the sign for the word 'dry', 'dried' in spoken language. As one can see from the sign entry, there is no corresponding sentence produced by the given sign.

Although the EthSL dictionary is limited in the type and amount of information it contains, using it as the secondary source of data for this study is inevitable. To add more detailed information gathered from videotapes and interviews with deaf informants, the researcher used the semantic relational forms of lexical signs as a base.

While identifying and analyzing signs from the EthSL dictionary, the researcher followed some steps. First, she attempted to identify sign entries with relation to each other in their meaning concerning polysemy, synonymy, antonymy, homonymy, and metonymy. Then she moved on to finding the thematic category in which the identified sign appeared; this was done by indicating the gloss

(meaning in spoken Amharic/English given in the EthSL dictionary) and the source where the sign entry was located (page numbers). Secondly, after selecting the needed data for the study, the researcher began to analyze, present, and describe those data based on the operational definitions and criteria mentioned in the previous sections.

Hence, focusing on the lexical relations in EthSL signs, the EthSL dictionary was thoroughly investigated and analyzed to find out how the dictionary considered these lexically related signs and to suggest some recommendations on how to improve it depending on the findings of this study.

While analyzing the semantic relations in EthSL, the researcher tried to refer to the Amharic Sign Language Dictionary, which is older than the EthSL dictionary, to check the eventuality of etymologically related lexical signs. However, no attempt was made to conduct an in-depth comparative analysis between the two dictionaries for the researcher found it difficult to know the clear historical relation among EthSL lexical signs.

### **3.5. Procedures of Data Collection and Ethical Considerations**

Procedures in video recordings and interviews were taken in Addis Ababa and Hossana at different places and times. Before the recording, the researcher explained the recording procedures, gave a brief description of the preferred topic, and informed the informant that he or she could stop the interview or video recording at any time. Each informant was then asked to fill out a questionnaire containing background information and sign a form consenting to their participation in the study. The informants were filmed while they were telling the researcher stories and narratives, and photos were also taken while they were using some illustrations upon the researcher's request. Being deaf and a member of the deaf community, the researcher did not face difficulties in making informants willing to assist her in setting up video cameras together with her assistants. This, in turn, helped the researcher to establish an atmosphere that enabled the Deaf signers to exercise EthSL before even the starting of the actual recording. When all the equipment was ready, my assistants started recording and taking pictures when necessary. Storytelling lasted an average of 20 minutes for each informant.

The model for the interviews used in this study was adapted from procedures explored by Spradley (1979). A semi-structured approach was used, similar to the one developed by Wilcox (1993) & Naughton (2001). This approach gave flexibility to the interview and allowed the informants to partially get guidance to follow. A list of signs, along with accompanying questions and prompts, was compiled and arranged in what we considered to be a natural progression. Nevertheless, the researcher

followed the lead of the informant when they diverged from this order and led the interview into areas that the researcher had not anticipated.

Each interview began with a general question designed to figure out the sign relationships that are depicted through EthSL; in doing this, the researcher did not demonstrate the sign to the informants by herself even if she took into account the general meanings conveyed through the signs. The researcher accomplished this by using scripts both in Amharic and English and informally asking the participants, without supplying a context, whether EthSL has a sign related to meaning. Oftentimes, when informants produced signs in their uninflected form, the researcher asked them to give a sample of semantically related signs. Sometimes she did this in a sentence form using that sign.

The researcher carefully followed up on the occurrences of semantically related lexical signs and sentences to ask informants about the possible manifestations of various semantic relationship patterns among lexical signs in EthSL. The researcher also questioned informants to what extent relational signs were produced in the form of polysemy, synonymy, antonym, homonymy, and metonymy. She also provided informants with some details about the semantic features of the semantically related signs and the context in which they could be used in the day-to-day interactions of the sign language users.

Many of the signs on the list appeared naturally while informants responded to the questions. Moreover, when necessary, the researcher gave examples of relational signs and contextual examples to elicit specific signs on the list. For example, to elicit a sign in EthSL with the meaning of 'hot', the researcher gave some clues to the informants so that they could produce a specific sign that semantically related to the word ('hot'). Depending on the responses that the informants attempted, she encouraged them to indicate any additional meanings they knew about the word 'hot'.

In a situation when the researcher failed to elicit the needed form, she showed the informant an excerpt of the particular relation of signs as it appeared on one of the recorded videos or written scripts. Then, she further asked them to confirm the form of the sign and demonstrate how she/he might use it. Upon completion, the interviews were transcribed and prepared for the analysis.

After the consent of the informants was obtained, they were asked to talk about their life histories, familiar stories, and narratives they were interested in with a time of 20-30 minutes. The researcher together with her assistants carefully recorded the narrations.

Finally, the researcher wrote the entire 1321 signs found in the EthSL dictionary onto Excel for

identifying lexical-semantic related signs. Considering its relevance to lexical-semantic relations, due attention was also given to the microstructure of the dictionary.

### **3.6. Data Analysis Method**

The data collected from informants using video recordings and the EthSL dictionary were analyzed and presented using the descriptive method. This method was chosen because it enabled the researcher to show the processes of the lexical-semantic relations and understand the classification of lexical-semantic relations in EthSL. Practically, the signs were identified and classified according to their semantic relations, and more focus was placed on polysemy, synonymy, homonymy, antonymy, metonymy, and some other sub-categories. The analysis and discussion of their meanings were done in line with the classifications. Similarly, the analysis and descriptions of these lexical relations in EthSL were done based on the relevant theories mentioned in the sections above.

## **CHAPTER FOUR**

### **DATA PRESENTATION AND ANALYSIS**

#### **Introduction**

This section deals with the analysis of lexical relations in EthSL and the use of these semantic relations in the preparation of the EthSL dictionary. The data collected from video data, elicitation interview and EthSL dictionary were analyzed and presented below. The semantic relations discussed in this study were polysemy, synonymy, antonymy, homonymy, and metonymy. Each of these semantic relations was described in detail as follows:

To achieve the research objectives in describing semantically related signs in EthSL, the data were collected from twelve informants who lived in research settings, Addis Ababa and Hossana. The data taken from the EthSL dictionary were used to complement the data collected from the informants. As mentioned before, the twelve participants (six from Addis Ababa and six from Hossana), who were selected based on the criteria stated in the previous sections, were deaf EthSL signers. The EthSL dictionary which the researcher used as a secondary source of data was published in 2008. The analysis below referred to the semantic relations of lexical items (signs) that involved relationship aspects with or without contextual patterns. Therefore, the provided instances and analysis of lexical items (signs) were taken either in isolation or in a particular context.

#### **4.1. Polysemy in EthSL**

Polysemy is one of the lexical-semantic relations. It is usually described as the case where a single lexeme (word) or sign in sign language is associated with several related senses. Palmer (1979) states polysemy is multiple senses of the same phonological word or it is a word with two or more meanings. It is a well-known feature in the lexical categories: nouns, verbs, and adjectives; the more frequent a word is, the more polysemy it will develop.

Linguists applied some criteria to detect lexical polysemy in spoken languages. The traditional definition of polysemy (Palmer 1979, Lyons 1977) and criteria for distinguishing polysemy from others (Lyons 1977, Apresjan 1974, Riemer 2010) are operational for determining lexical polysemy in this study. The operational definitions and the criteria mentioned earlier were used to identify and analyze polysemous signs in EthSL.<sup>2</sup>

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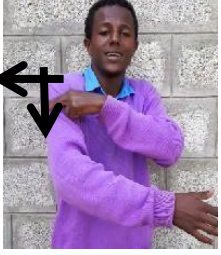
<sup>2</sup> For conventions regarding the transcription and glossing text of EthSL refer to appendix part

Despite the lack of established criteria to determine the polysemous signs in sign languages, similar examples of polysemous signs in other sign languages such as Auslan, ASL, and JSL were also reviewed. Polysemy is hence defined as a single sign /lexeme with several or multiple related meanings. Strictly speaking, a single sign /lexeme or lexical item that has several or multiple related meanings can be polysemy in EthSL.









The criteria applied for identifying polysemous signs (of Lyons 1977, Apresjan 1974, Ascher (2011) in this study include:

- Lexical relatedness vs unrelatedness of meanings
- Etymology (sign performances in sign language)
- Lexical polysemy does not cut across syntactic word classes. However, this is considered as polysemous in sign language examples mentioned in Auslan (Johnson and Schembri 2007), ASL (Lucas 2005), and Tomita (2016) in JSL due to the absence of a clear cut point to distinguish nouns and verbs in most sign languages. So, it was grouped under polysemous signs.
- And "if two different predicates, each requiring a different sense, predicate properties of a different sense of a given word felicitously, then the word is logically polysemous concerning at least to those two senses" Tomita (2016) and systematic semantic associations.

Based on the conceptual definition of polysemy and criteria used in spoken languages as well as considering some polysemous sign examples in Auslan (Johnson and Schembri 2007), ASL (Lucas 2005), and Tomita (2016) in JSL, attempts were made to present polysemous signs in EthSL that obtained from the data for this study.

No	Sign Illustration	Meanings of the Sign	Data Source
1		story, narrative/storytelling	Video Recording
2		entrance, inside, in	Video Recording
3		sick, disease, ill	Video Recording
4		School, education	Video Recording
5		Zero, Kindergraten	Video Recording
6		medication, hospital,	Interview eicitation

7		Fish, fish food	Video Recording
8		a car, to drive	Video Recording
9		a pool, to swim	Elicitation Interview
10		Gurage, Guragegna	Video Recording
12		Train, Lagehar (place name)	Elicitation Interview
13		arrest, long queue	Video Recording
14		an airplane, to fly	Elicitation Interview
15		Chicken, chicken food	Video Recording

16		Cross-country bus, bus station	Video Recording
17		Orange, fruit	Video Recording
18		Parent, father/mother	Video Recording
19		Brother, male/same	Video Recording
20		Cold, chilly, shiver	EthSL Dictionary
21		Opposite, contrary, opposition, enemy	EthSL Dictionary
22		Unity, union, together	EthSL Dictionary
23		To boil, to cook, to heat	EthSL Dictionary

24		Practice, exercise, training, to rehearse	EthSL Dictionary
25		Book, magazine, archive	EthSL Dictionary
26		Amharic (subject), Amhara, Amharic (music)	EthSL Dictionary
27		Copy, duplication, carboncopy	EthSL Dictionary
28		Environment, village, surrounding, to circle	EthSL Dictionary
29		Gaz, benzene, kerosene, diesel, petrol, fuel	EthSL Dictionary
30		Jog, coffee pot, kettle	EthSL Dictionary
31		Plate, tray, dish	EthSL Dictionary
32		Razor blade, shave	EthSL Dictionary








33		Pillow, mattress, sponge	EthSL Dictionary
34		Pee, urine, urinate, urinating, toilet	EthSL Dictionary
35		Tax, price, cost	EthSL Dictionary
36		Cloth, to wear	EthSL Dictionary
37		Curtain, to close curtain	EthSL Dictionary
37		To cheat, to fool, to flirt	EthSL Dictionary
39		Confusion, disturbance, terrorism, conflict, to mix	EthSL Dictionary

Table 2: Polysemous Signs Recorded in the Data

As shown in Table 2, the 39 polysemous signs were collected from video recording, interview elicitation, observations, and the EthSL dictionary. The pictures illustrated in the table above were taken from the informants and the EthSL dictionary with a gloss in English.

A closer look at individual signs with multiple meanings in the above table reveals the occurrences of polysemous signs in EthSL. For example, a single sign as shown in picture 17 can provide multiple meanings such as 'orange food' and 'type of fruit plant'. It provides those who partake in discussion (or dialogue) with more than one meaning depending on the situation or context they are in.

The etymological analysis of the lexical sign for 'parent' can show that the sign originated from the two signs, FATHER and MOTHER. The sign is made by vibrating 5 handshapes on the forehead and moving to the cheek with the same handshape and movement. Thus, the sign for 'parent' is semantically related to the combined signs of FATHER and MOTHER. We can also find such types of etymological situations in different sign languages. For example, Schmalig (2012:207) observes that in the Ugandan Sign Language dictionary the sign for 'husband' is signed by combining the original signs for MAN and MARRY. However, even if the actual practice reveals the etymological origin of some signs, the researcher has not got a clear explanation of the logical integrations between etymology and signs. Of course, it is a fact that the lexical signs with the same origin can be considered polysemy.

We can learn from the collected data that polysemous signs are also practiced in EthSL as they occur in both Auslan and JSL. In the EthSL dictionary, we commonly find polysemous signs that represent several meanings for a single sign.

Palmer (1982:67) states that polysemy is one word with several meanings. This refers to situations in which a lexical word might include more than one meaning. Thus, the definition supports the concept of the single sign with multiple meanings as a polysemous sign. However, the translation for an equivalent meaning in the counterpart spoken language may complicate the matter of deciding whether signs are over-ordinate or polysemy signs. Despite that, definitions of polysemy support that a sign with multiple meanings can be considered polysemy.

Plamer (1979) states two approaches of polysemy: diachronic and synchronic whereas neither refers to a change in the semantic structure of the words/signs and the latter refers to the coexistence of various meanings of the same word at a certain historical period of development. In the diachronic approach, one of the two words/signs becomes the primary meaning, and the other appears later as a secondary meaning derived from the primary meaning. In the synchronic approach, when there is the problem of

interrelation and interdependence of individual meanings making up the semantic structure of the word/sign shall be investigated from different points of view, that of main/ derived, central /peripheral meanings.

Therefore, the above-mentioned polysemous signs in EthSL might be formed through the diachronically derived and interrelation/interdependence of lexical signs.

According to Falkum and Vincente (2015), polysemy is expanded in natural languages, affecting both function and content words, and the intended sense is easily identifiable by the speaker. However, to them, it is being proven to be very difficult to treat theoretically and empirically. This is also true in EthSL in which polysemous sign senses can be identified by signers although proving them either theoretically or empirically is difficult. Furthermore, apart from facing the difficulty of deciding whether a certain sign is polysemous or not, identifying the number of senses that a particular sign possesses in EthSL is also quite challenging. However, the researcher finds it useful to apply the operational definitions of polysemy given by Lyons and Cruse in Klepousniotou (2002) to identify polysemy signs in EthSL.

#### **4.1.1. Patterns of Polysemy in EthSL**

Apresjan (1974) and Pustejovsky (1995) discuss the patterns of polysemy especially systematic polysemy in spoken languages. According to them, systematic polysemy is a set of word senses that are related in systematic and predictable ways. They examined the patterns by using the linguistic material (texts, dictionaries) and by introspection. They also described most patterns of polysemy for count and mass nouns. In this study, however, the polysemy patterns were not limited to countable and mass nouns. The video, EthSL dictionary, interactive interview, and observation data were used to analyze and describe the polysemy patterns in EthSL without being limited to countable and mass nouns.

Action/Activity: The sign illustrated in Figure 7 below is one example of action/activity patterns of forming polysemy in EthSL. It means 'narrative', as well as 'storytelling'. These two senses are probably similar due to their meanings 'action' and 'result of activity'. The sign 'storytelling' denotes an action while a narrative or story is a result of this activity. It makes sense to say that the sign is polysemous because signers use this sign to have multiple meanings.



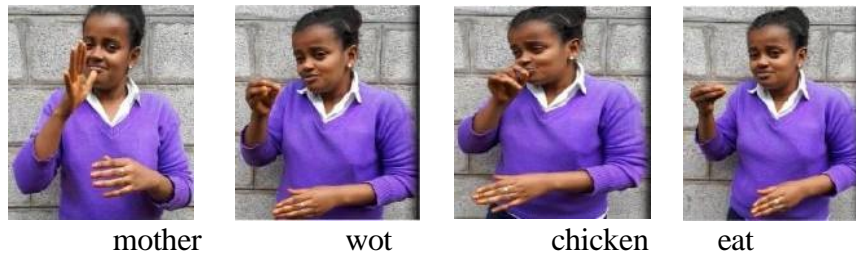
Figure 7: Sign illustration for ‘story/narrative, story-telling’

**Animal/Meat Food:** the sign in Figure 8 below is produced to mean 'chicken' which is a typical animal/food pattern; it refers to a sort of systematic polysemy. The signer used one sign to mean 'chicken' in his narrative; this can mean either chicken (the animal itself) or chicken (the meat produced from it). Thus, if a sign denotes an individual animal or a kind of meat that is produced from that animal, signers can refer to them from one sign with multiple meanings that relate to each other. Another example of a polysemous sign in EthSL in this pattern is the sign for FISH which denotes an individual animal (fish) and a kind of fish meat.

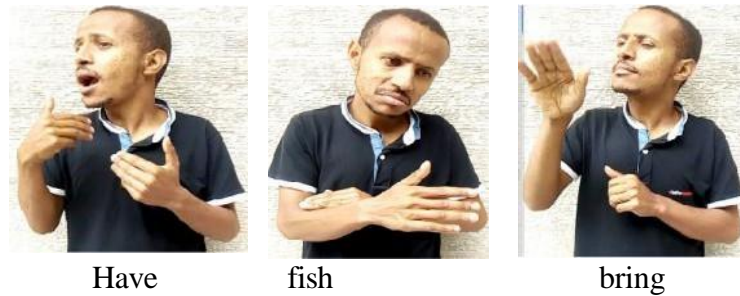
Let us see the polysemous context patterns shown in Figures 8below:



(Figure 8 A; Meaning: I saw a chicken passing while I was walking around).



(Figure 8 B; Meaning: My mother is eating achicken wot.)



(Figure 8 C; Meaning: Please, bring me fish if you have).



Me in water fish see

(Figure 8 D; Meaning: I saw fish in the water).

Figure 8: Contextual use of polysemous signs

As observed in Figure 8 above, the expression of polysemous signs is not limited only to contextual situations or signs in isolation but can appear in both. According to Klein and Murphy (2001), some polysemous word senses would be derived by context as well as familiar patterns of extension, for example, new terms like movie, videotape, CD, and DVD have all been derived following the same polysemic pattern.

**Object/Place:** Some signs also depict the semantic relationship or associations between a place and a physical object. For example, a sign to mean 'legehar' and 'train' as well as 'airplane' and 'Bole' are cases in point. The sign below denotes a place's name where the train station is located on the one hand and the train (the object) is stationed in that place on the other.



Figure 9: Sign illustration for Legehar and Train



Me airplane see enjoy

(Meaning: I enjoyed seeing airplane).



Bole deaf school have

(Meaning: There is deaf school at Bole).

Figure 10: Sign illustration of object/place pattern

**Fruit/Plant:** As seen in Table 2 no.17 above, there are existing patterns of polysemy in EthSL that can be regarded as systematic polysemy in terms of the fruit/plant semantic relationship. As indicated in Figure 11 below, the sign can be used to convey different meanings. It can refer to a kind of plant itself as in 'SEE BEAUTIFUL ORANE' (meaning: I saw a beautiful orange plant). It is different from 'ORANGE JUICE HAVE?' (meaning: Do you have orange juice?). In this case, it refers to a kind of fruit juice (food). Furthermore, it can also be used to refer to a type of color as in "ME WANT ORANGE INK' (meaning: I want orange ink). Hence, all these show how the sign could mean different things depending on the context it (the sign) is used. This, in turn, witnesses the occurrence of polysemy in EthSL. According to Riemer (2010:160), a word becomes a polysemous lexicon when it is used with many different meanings. In addition to this, Ascher (2011:21) states that "if two different predicates, each requiring a different sense, predicate properties of a different sense of a given word felicitously, then the word is logically polysemous concerning at least to those two senses."



Tree see beautiful orange

(Meaning: I saw a beautiful orange plant/tree).



(Meaning: Do you have orange juice?).

Figure 11: Sign illustration for fruit/plant pattern

**Language/People/Cultural Dance/Ethnic Name:** Some signs refer to language, people, culture, and ethnic names. We often see the depictions of semantic relationships while these four patterns are described through polysemous signs in EthSL. For example, the signs illustrated below in Figures 12 and 13 can be polysemy where they could mean 'Gurage' (the people, an ethnic name) and 'Guragegna' (the language and the cultural dance of the Gurage ethnic group). Similarly, the sign in Figure 13 refers to the other ethnic group, the Amhara people, and their language, Amharic.



Figure 12: Sign illustration for 'Gurage', 'Guragegna'



Figure 13: Sign illustration for ‘Amhara’, ‘Amharic’

**Related Object/generalality:** The collected data also show the occurrences of polysemous sign patterns in which a single sign is produced for partially similar objects. For example, a sign produced to mean kettle (metal) could also be used to refer to jog and clay pot (traditional handmade). This shows that some signers use the same sign for different entities to form generality. This might happen due to the partial relatedness among the stated household objects and their functions. See illustrated figure 14 below:



Jog, clay pot, kettle

Figure 14: Sign illustration for ‘jog’, ‘clay pot’, ‘kettle’

**Object/function:** The findings of this study also show that some signs in EthSL become polysemous in object/function relationship patterns. It is to mean that in EthSL there are signs which have multiple meanings when they are used to refer to both objects and their respective functions. Object/function patterns even seem the most common ones that systematically form polysemy signs in EthSL. In this regard, the EthSL dictionary can be used to extract signs that refer to objects and their functions at a time. For example, 'cloth' (the object) and to wear a close (the action) are two different things. However, these two things can be signed in the same way as we can see in figure 15 below.



Figure 15: Sign illustration to mean ‘cloth’, ‘to wear’

According to the sign, the pattern of the noun is not distinct from the pattern of the verb; both the noun form, "cloth", and the infinitive form, "to wear" are indicated by the same sign. In other words, the two are semantically polysemous. There are no clear-cut criteria to distinguish between nouns and verbs in EthSL although movement repetition for a given noun in other sign languages may result in verb formation from that noun. For example, a sign to mean 'airplane' (noun) vs 'to fly'(verb), or a sign to mean 'car' (noun) vs a sign to mean 'to drive' (verb) are represented in the same sign respectively. These signs represent related meanings based on grammatical ontology as noun vs verb. But this does not mean that all nouns and verbs in EthSL have similar signs to form polysemy.



Figure: 16, Sign to mean ‘airplane’, ‘to fly’

Supalla and Newport (1978:128-131) found one hundred noun-verb pairs in which the movement of the verbs is reduplicated to derive related nouns through the processes of reduplications. In EthSL, for example, nouns could refer to concrete objects such as CAR while its corresponding verb, DERIVE, displays the action performed on it (in this case the car). One could also observe the fact that although the repeated morpheme performs the same function in each of the pairs (changing a verb to a noun), the resulting meanings are related but not precisely the same. For instance, if we compare the noun/verb pair FLY/AIRPLANE (the action of flying and the object on which one can fly) to the noun/verb pair DERIVE/CAR (the action of deriving something and the object needed to act), the relationship of the meanings is not identical. This shows that even if items/signs are not precisely

identical, they can be related in their meanings. Naughton (2001) refers reduplication process as polysemous in the morphological process of deriving nouns from verbs in ASL. By the same token, the deriving noun to form a verb and vice versa in EthSL can be considered as polysemous signs.

### **Semantic Sense of Polysemy in EthSL**

According to Cokely (2014) the 'single sense lexical items' that are present in spoken English, also occur in ASL in much the same way. Following this, it is tried to investigate the semantic sense of polysemy depicted through the collected data on EthSL.

As one can observe, like in other languages, if someone knows the realities and how the EthSL signing community makes use of the polysemous sign patterns, she/he can produce sentences in EthSL without ambiguity. The semantic sense one attaches to the lexical items is the same sense attached by other members of the EthSL-signing community. The members of the EthSL signing community also infer their knowledge of these real-world realities that the 'BREAD' was eaten or will ultimately be eaten while the 'BOOK' will be used for reading. Of course, if one fails to know the real-world realities or how the EthSL-signing community refers to them then there is no possibility for her/him to make clear and accurate communications using the signs. Then, she/he might, for instance, assume that 'BOOK' is eaten with peanut cream or 'BREAD' is used to write on it. According to Cokely (2014), the norm for most languages is that lexical items have more than a single semantic sense. From linguistic perspectives, lexical items that have more than one semantic sense refer to more than one reality, and they are regarded as polysemous lexical items; in English, they are commonly referred to as "multiple meaning" words (Lyons, 1995).

Lexical items such as "sick" and "ill", "opposite" and "contrary"; "practice" and "training"; "plate" and "dish"; "pee" and "urine"; "price" and "cost" might be considered as synonyms both in English and Amharic languages. However, differently spelled or closely related lists of words are given one sign and that sign can be considered as polysemy in sign languages (Lucas, 2005; Johnston and Schembri, 2007 & Naughton, 2012). Morphologically speaking, using a single sign for multiple spoken words of the corresponding language may not make sense.

#### **4.1.2. Motivational Process of Polysemous Signs in EthSL**

It is widely believed that the meaning of polysemous words has been extended through metaphor and metonymy to acquire new meanings through active language users. According to Apresjan (1974) and Klepousniotou (2001), metaphorical polysemy is assumed to hold between the sense of the word and

metonymic polysemy; in this regard, both basic and literal senses are thought to be the same. Ullmann (1962) also explains that polysemy can occur due to foreign influence as well as semantic borrowings. As to Ullmann foreign influence is one of how one language can influence another by changing or altering the meaning of the words represented by that language.

Iconicity is also considered as one motivational factor in forming polysemy. Thus polysemy is motivated metaphorically, metonymically, and semantically. Taub (1997:15) states that "signed languages use the same kinds of semantic motivations that spoken languages do, for example, association and metaphor." These kinds of motivational processes used to form polysemy were also observed in our data.

The process or pathways through which the obtained polysemous signs in EthSL were motivated to form polysemy will be discussed following this:

#### **A) Metaphorically motivated Polysemic EthSL Signs**

Lakoff and Johnson (2003) explain that a word with a single historical origin that can have several senses (polysemy) is attributed to metaphor; in this case, metaphorical expressions tend to refer to a word whose meaning is altered; it is the process of creating a different meaning to a given word. Thus, metaphorical operation in sign language might help to explain many of its form-meaning relationships. The process of metaphorical extension is one mechanism for widening the semantic range of lexical items (Taub, 1997). It can happen either in isolation or in a particular context. The data collected for this study indicate that some polysemic signs are metaphorically motivated in EthSL. It is to mean that polysemic signs are extended through metaphor and thus acquire new meanings for a given sign.

The metaphorically motivated (extended) signs presented in this study were examined in terms of the metaphorical mapping extension, a scenario developed by Taub (1997), and a mechanism for forming metaphoric signs (see Taub, 2001 in ASL and Kimmelman et al., 2017 in Russian Sign Language RSL). The mechanisms involved in forming metaphoric signs include signs that: (a) acquire a metaphorical meaning without change, (b) obtain a metaphorical meaning in a sequential compound, (c) consist of a meaningful morpheme in a multi-morphemic sign that causes the occurrence of a metaphorical meaning in certain contexts, and (d) are not mutually exclusive and can co-occur in the formation of a single metaphorical sign (see Taub, 2001 in ASL and Kimmelman et al., 2017 in RSL). Here it is good to note that this research did not aim to investigate metaphoric signs in EthSL; rather attempts were made to look into polysemic signs that were produced through the mechanisms of

metaphoric extensions. To this end, the metaphorical extension principles were used to discuss both the polysemy signs and the metaphorically motivated polysemic signs in EthSL.

As one can learn from the collected data, in EthSL there are polysemic signs that are metaphorically extended. For example: a sign for CROSS-COUNTRY BUS can also mean a sign for BUS STATION. The sign acquires metaphorical meaning without change (i.e. expressing signs by using all components). For example, the two meanings illustrated by the sign in Figure 17 below are, 'cross-country bus' (a bus travels to different regions of the country which most often has a 'loudspeaker' at the top-front) and 'bus station'(a place where cross country buses begin and end their journey).



Figure 17: Sign illustration for 'cross-country bus' and 'bus station'

The process of extension of sign meaning through metaphorical motivation forms a polysemic sign that has multiple meanings related to one another. This is similar to Taub's model of metaphorical mapping which is used to create signs with basic physical meaning. The mechanism is also a form of acquiring metaphorical meaning without change. This is based on deaf people's view on physical and cultural experiences to say the same thing and extend to a similar pair of concepts.

The other good example of metaphorically motivated polysemy is a sign illustrated in Figure 18 below. It is a sequential compound form in EthSL which consists of a sequence of multiple signs. The sign for 'PARENT' is extended from the separate sequences of signs for 'FATHER' and 'MOTHER'.

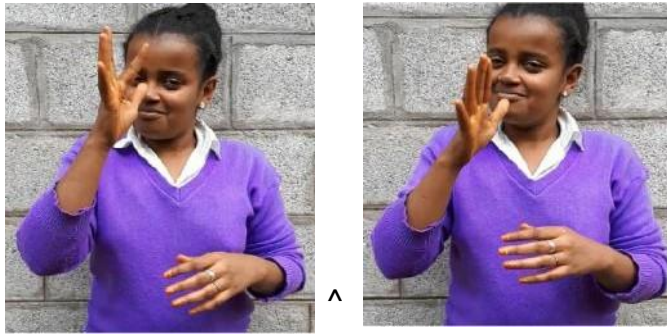


Figure: 18, Sign illustration for 'parent'

The process of forming metaphorically motivated polysemic signs is exercised through the mechanism of acquiring metaphorical meaning in the compound. For instance, the sign that intends to mean PARENT is only formed within the metaphorical interpretation of the compound signs - FATHER/MOTHER. When these signs are used in isolation, they only have literal meanings. Kimmelman et al. (2017) suggest that the compound of a concrete sign can acquire a metaphorical meaning.

According to Taub (2001), the classification of such signs could be done by expressing a single metaphor that uses all the components of the sign. While dealing with metaphorical expression in sign language, Kimmelman et al. (2017) state that in RSL the same sign is used to mean both FEAR and COLD. This example seems to fit homonymy rather than polysemy because there is an unrelatedness of meaning between the two lexical items 'fear' and 'cold'.

Often, but not always, multiple semantic senses are attached to a lexical item because there is a physical resemblance between two realities or a metaphorical link between the original semantic sense of an item and a novel semantic sense (Cokely, 2014).

### **B) Metonymically motivated EthSL Polysemic Signs**

Under this sub-topic due focus is given to the metonymically motivated polysemic signs in EthSL. Metonymy "has primarily a referential function, that is, it allows us to use one entity to stand for another" (Lakoff and Johnson, 1980:35). For example, a painter and her/his painting can referentially be related. According to them through metonymy, we can choose different aspects of a referent depending on our focus. Wilcox (1979) and Naughton (2001) state that ASL uses this process in signs for various animals. However, to the best knowledge of the researcher, such kind of research has not been done on EthSL yet. On the other hand, Taub (2001) addresses that spoken languages and sign languages share key features in metonymic expressions.

Apresjan (1974) observes that the relation that is assumed to hold between words has a sense of contiguity or connectedness; therefore, metonymically motivated polysemy reflects the usual notion of polysemy. According to him in a metonymically motivated polysemy, both of the basic senses are the same.

As the data collected for this study shows, EthSL involves polysemic signs that have metonymically been extended to give meanings among the language users. For example, a sign illustrated in Figure 19 shows the basic sense that refers to an animal and the extended sense that refers to the meat of that animal. This polysemic sign that is motivated through metonymic extension maps entities on the same domain. That means a sign for 'fish' can be extended to refer to fish meet (the food). In general, metonymically motivated polysemic signs obtained from the data involve part of the whole pattern.



Figure: 19, Sign illustration for 'fish' and 'fish meet'

The meaning of the polysemic sign illustrated in Figure 19 above is extended through metonymy to acquire new meaning through language users.

Another example of a metonymically motivated sign in EthSL is URINE; it extends to both the process of urinating and 'the place to urinate (toilet)'. Thus, the sign primarily represents URINE, a watery, typically yellowish fluid stored in the bladder, and then it extends to the action, urinate/urinate, and the place, toilet, where the action, (urinating) is practiced. The primary function of the sign URINE is provided, but the same sign has also been used to refer to another entity.



Figure: 20, Sign illustration to mean 'urine', 'urinate', 'urinating', 'toilet'

There are also commonly used metonymically motivated EthSL signs that are also shared with Amharic words, the surrounding spoken language that co-occurs with EthSL. For example, Amharic speakers use ORANGE to refer to both the fruit itself and the natural color it possesses. Similarly, in EthSL the sign for ORANGE is used to mean both the fruit and the color.

Metonymically motivated polysemy appears to be quite different from metaphorically motivated polysemy. Metaphorically motivated polysemic signs map entities between two different conceptual domains; for example, a sign for HOT is also used to refer to 'nervous'. As shown above, metonymically motivated polysemic signs map entities with the same domain; for example, the sign for FISH is also used to mean 'fish meat/food'. Naughton (2001) states that metaphor maps entities between two different conceptual domains while metonymy maps entities within the same domain.



Figure 21, Sign illustration to mean 'fish', 'fish meat' (food)

### **C) Polysemic EthSL Signs that originated from Semantic borrowing from Foreign Sign Languages**

The occurrence of polysemy can also appear through foreign influence as well as semantic borrowing (homonyms). Ullmann (1962) explains that foreign influence is one of how one language can influence another one by changing the meaning of the words represented by that language. Hence, sometimes the borrowed sense will succeed the old one. Furthermore, Ullmann explains that polysemy can rise through semantic borrowing especially when there is a close contact between languages, with one language serving as the model for the other one. As described in the introduction section, it is evident that EthSL has a connection with ASL historically and is in close contact with the spoken Amharic language. Following this, it tried to discuss the appearance of polysemic signs in EthSL through foreign language influence.

The collected data on EthSL lexical signs have shown the existence of polysemous signs that arise from foreign influence and semantic borrowing, especially from ASL. EthSL is also influenced by the spoken Amharic language. As languages influence one another when they come into contact, ASL has

also influenced EthSL by altering the meaning of existing signs in EthSL. Evidence shows that the borrowed sense signs from ASL have interrelatedly been practiced with the corresponding old ones in EthSL. It has been tried to investigate some polysemic signs presented above and look at ASL signs from online dictionaries and meta-language engagement of discussions with informants. For example, the EthSL sign illustrated in Figure 7 above originally meant 'story' but later it extended to mean 'narrative' due to the influence of ASL(see page 98 above). Informants mentioned that the sign originally referred to mean 'story' and later it extended to mean 'narrative or storytelling' especially when the practice of 'storytelling' became known among deaf people. In this case, the old sense has survived alongside the new sense, creating a state of polysemy.

Polysemic signs can also rise as a result of semantic borrowing. It may mainly occur during frequent close contact between sign languages. One of the two languages may serve as a model for the other. For instance, according to the informants and review of the online ASL dictionary some deaf signers use the sign illustrated in Figure 18, to refer to the 'parent' instead of 'father' and 'mother' as a result of borrowing the signs for father and mother from ASL.

Polysemic signs can also occur when languages borrow signs from each other. Informants suggest that some sign meanings in EthSL are borrowed from Amharic. For example, ORANGE in spoken Amharic can represent both its color and the fruit itself. This is happening in EthSL simultaneously despite modality differences. Deaf can sign ORANGE to mean color or to mean a type of fruit.

In ASL, Cokely (2014) identifies polysemy as a form of multiple semantic senses signed and the multiple semantic senses of the English words are co-terminus or paired polysemous lexical items. For example, 'orange', the sign, and the word each refers to a particular type of citrus fruit and each refers to the same color. Hence, the use of the Amharic word 'orange' in its semantic sense of the sign would result in a successful translation.

However, as revealed from the data, there are some cases where the polysemous lexical item in EthSL has no direct symmetrical counterpart in Amharic. For example, the polysemous lexical item COFFEE/BROWN in EthSL has no direct symmetrical counterpart in Amharic. Cokely (2014) termed the items/signs of this type as unpaired polysemous lexical items.

Practically, in this study the researcher wants to underline that she did not investigate all the signs that were created through foreign language influence and semantic borrowing; rather she tried to present examples of polysemic signs in EthSL that have arisen through foreign language influence and semantic borrowings.

#### **D) Iconically motivated Polysemic EthSL Signs**

Taub (1997) defines iconic items (iconic signs) as signs in which some aspect of the item's physical form (shape, sound, temporal structure, etc) resembles a physical referent. He continues to explain that iconicity is more than just form-meaning resemblance. For example, a sign for TREE in ASL signed with the hands and forearms being positioned to resemble a tree growing out of the ground. Iconicity in sign languages mainly refers to the motivated sign forms, which represent aspects of the intended meaning; that means, a relationship of a structural similarity can be established between form and meaning. It is more prevalent in sign languages than spoken languages. However, to the best of the researcher's knowledge, the situation of iconicity of EthSL has not been studied yet. Of course, it is assumed that the majority of signs in EthSL could have at least one iconic parameter. In this section, we mainly discuss the polysemic signs in EthSL that are motivated by the resemblance of physical referents of the given sign. The data used for the discussion below are polysemic signs presented above.

The data collected for this study imply that some polysemic EthSL signs can iconically be motivated. It is to mean that a sign with multiple meanings is iconically motivated due to the physical resemblance of referents. For example, on one hand, the sign illustrated in Figure 22 below can mean 'kettle', on the other, it can mean 'clay pot'. The physical appearances of these two different physical referents are the same. And the sign for them is also the same in all parameters/sign components. The signers of the EthSL use one sign for both meanings (kettle and clay pot). In addition, the signs listed in the EthSL dictionary reflect signs with multiple related meanings glossed in Amharic/English for a single picture.



Figure 22; Sign illustration for 'clay pot', 'jog', 'kettle'

Another example of the iconically motivated polysemic sign is illustrated in Figure 23 below. On the one hand, the sign in the figure can mean 'airplane', on the other, it can mean 'to fly'. The sign

resembles a physical referent of 'an airplane'. It particularly mirrors the wings, front side, and back side of the plane. The movement of the hands that intends to mean 'to fly' resembles a plane on flight. It is to represent the physical form of the entity, the plane, and the act of flying.



Figure 23; Sign illustration for 'airplane', 'flight'

Research has shown that most signs are iconically motivated because "most of the things that we are talking about have a physical form and physical actions" (van der Kooij 2002). Furthermore, with the hands of the signer as the primary articulator, the shapes of the hands and their movements in space are often iconically motivated.

However, iconically motivated polysemy is not far apart from metonymically motivated polysemy where there is no principled fact that distinguishes the interaction between metonymy and iconicity in sign language. Wilcox (1993) notes that there is an overlap between metonymy and iconicity in signed languages because of their gestural modality. More importantly, it is maintained that metonymy generally represents only one feature of the object while iconicity mainly represents the whole feature of the object (Naughton, 2001). Similarly, iconically motivated polysemic signs in EthSL mainly represent multiple features of the object whereas metonymically motivated polysemic signs mainly represent one feature of the object.

In a nutshell, polysemy is one part of the lexical-semantic relations that studied in various disciplines since ancient times. More recently, studies on polysemy are becoming the subject of interest in linguistics as they present a conceptual and theoretical theme to distinguish polysemy from other lexical items; its derivation/extension could also form polysemic words/signs. The present study is also thought to contribute to the advancement of lexical semantic relations in EthSL.

The findings in this study show that polysemic signs are part of lexical semantic relations. They are

expressed in the same way with multiple related meanings with different patterns of forming polysemic signs in EthSL. Some of these patterns are used in spoken languages as well. They (the patterns) include action/activity, animal/meat, function/place, language/people, noun/verb, culture/ethnicity, and object/shape. The language translation uses the same patterns of polysemy in EthSL.

The study indicated that these polysemic signs in EthSL motivated/extended through different processes/pathways to form polysemy. Being extended through metaphors and acquiring new meanings for a given sign, these motivational pathways/processes are metaphorically motivated. Polysemic signs have metonymically extended to acquire new meanings that are different from the sign's original sense. EthSL polysemic signs that arise from foreign influence and semantic borrowing, especially from American Sign Language (ASL) are motivated by iconicity which plays a creative role in forming new and different senses from the existing signs. The language's internal pattern is the most common motivational/extensional process of lexical meaning in EthSL, whereas metonymic motivation and metaphoric motivation are the least extension processes.

## **4.2. Antonymy in EthSL**

Antonymy is the crucial semantic relation that was given due emphasis during this study. Lyons (1977) defines antonymy as the words that are opposite in meaning and antonymy as the oppositeness between meanings of the words. Traditionally, antonymy is also called as opposite meaning (Saeed, 1997).

It is suggested that antonymy, or linguistic opposition, is considered by many researchers to be an important principle of governing a language's internal structure, at least within its lexical store.















Cruse (1986) and Lehrer and Lehrer (1982) attempt to identify a pair of antonymy from near opposites. They applied factors that determine the oppositeness of pair words and criteria in defining antonymy (see the review of literature above). Finally, Justeson and Katz (1991) refer to antonymy as a lexical relation, "specific to words rather than concepts." They also argue that the definition of antonymy must be lexical as well as semantic. Jackson (1988) also claims that antonyms need to have "oppositeness of meaning", but they also need to have a strong and well-established lexical relationship with one another. Interestingly, Egan (1968) defined antonymy based on her understanding of its nature as "a word that opposed in meaning to another word; it's equal in breadth or range of application; it negates or nullifies every single one of its implications."


In spoken languages, antonymy is studied in a well-established system that enables it to govern the

oppositional structure of the words in the language. The researcher could not find a well-constructed written literature that elaborates on the features of antonymy in sign languages. To the best knowledge of the researcher, there is no study conducted on the antonym in EthSL. Therefore, focusing on lexical relation that also involves antonymy, this study could pave the way for understanding opposites in EthSL. Following this, apart from presenting antonymic pair signs, it is tried to analyze or classify them; an attempt has also been made to conduct the discussions based on the factors/criteria that determine antonyms in spoken language. Some examples of antonymic signs in Auslan have been used to make the discussion more clear and understandable.

To analyze antonymic signs in EthSL, the data collected from the EthSL dictionary and informants were thoroughly examined. The findings have indicated the existence of several opposite signs/antonyms in EthSL. It is good to know that before moving onto in-depth analysis, it was tried to select potential antonymic signs depending on the commonly accepted definitions and determining factors of antonymy suggested by Lyons (1977), Jackson, (1988), Egan (1968) and (Cruse 1986). These antonymic signs are related by having opposite meanings. Potential antonymic signs found in EthSL are listed below.

Sign 1	Meaning	Sign 2	meaning	Data source
	borrow		lend	EthSL Dictionary
	good		bad	EthSL Dictionary
	evening		morning	EthSL Dictionary
	close		open	<i>Video recording</i>
	true		false	<i>Video recording</i>
	up		down	<i>Elicitation Interview</i>
	yesterday		tomorrow	EthSL Dictionary

		know		Not-knowing	Elicitation interview
		like		Not-like	Elicitation interview
		want		Not-want	Elicitation interview
		obey		Not-obey	Elicitation interview
		black		white	Elicitation interview
		male		female	EthSL Dictionary
		live		death	Elicitation interview

	large		small	EthSL Dictionary
	hot		cold	EthSL Dictionary
	Tall		short	EthSL Dictionary
	wide		narrow	EthSL Dictionary
	buy		sell	EthSL Dictionary
	easy		hard	EthSL Dictionary
	father		mother	EthSL Dictionary
	sister		brother	EthSL Dictionary




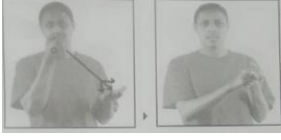












	here		there	EthSL Dictionary
	husband		wife	EthSL Dictionary
	to marry		To diforce	EthSL Dictionary
	bitter		sweet	EthSL Dictionary
	rich		poor	EthSL Dictionary
	new		old	EthSL Dictionary
	expensive		cheap	EthSL Dictionary
	Far		near	EthSL Dictionary

Table 3: Antonyms in EthSL taken from the collected data

### 4.2.1. Ways of forming Antonyms in EthSL

As shown below, the occurrences of antonyms in EthSL could be described in different ways.

#### 4.2.1.1. Changing the Movement Parameter of the Sign to the opposite Direction

When the direction of movement parameter of the initial sign is changed to the opposite direction, it gives a meaningfully opposite sign that is parallel to the initial sign. In this way, the opposite signs could form antonyms that mainly have similar parameters. The handshape, palm orientation, and location would bring forth different movements. However, this strategy may not apply to all signs, nor does it involve directional verbs. The illustrated pictures below (Figure 24) are taken from the EthSL Dictionary 2004 edition..



Figure 24: Sign illustrations for 'borrow' and 'lend'

As can be seen in Figure 24 above, the sign for 'borrow' shows that the movement of the arrow is towards the signer, whereas the sign for 'lend' is signed away from the signer to form the opposite. The initial sign appears in the form of a verb to refer to the auction. Most action verbs in sign language consist of opposite directions.

The rationale behind the features for forming antonymic signs is unclear, but it seems that the concept and iconicity have contributed to the variations. For example, when the movement of the sign for BORROW becomes away from the signer, it conceptually and iconically indicates the act of giving something to someone. Contrary to this, when the movement of the sign for LEND points to the signer, it conceptually and iconically shows the act of receiving/taking something from someone. It practically uses a different expression from the counterpart spoken language such as Amharic.

The EthSL signs for 'evening' and 'morning' are also antonyms; their phonological forms are related. They share a palm orientation, handshape, and location although they are different in hold-movement-hold structure. The movement of hands points toward the opposite cross direction. Then, as shown below, the difference in meaning lies in the differences in the final movement parameter;



Figure 25: Sign illustration for 'evening' and 'morning'

The EthSL signs for 'yesterday' and 'tomorrow' are also antonyms although their phonological components are related in that they share a palm orientation, handshape, and location. As one can see in the picture (Figure 25) above, the signs for evening and morning are different in the hold-movement-hold structure. The movement of hands is directed toward backward and forward direction from the signer. Then the difference in meaning lies in the difference in the final movement parameter; while moving backward refers to yesterday, moving forward from the signer stands for 'tomorrow'.



Figure 26: Sign illustration for 'yesterday' and 'tomorrow'

The EthSL signs for 'open' and 'close' are also antonyms; their phonological components are related and they share a palm orientation, handshape, and location. They are also different in movement parameter structure. The movement of hands in the opposite direction is done at a time. Then the distinction in meaning lies in the difference in the final movement parameter; to do the open sign one needs to move her/his hands to the opposite sides, whereas to close move near each other.



Figure 27: Sign Illustrations for ‘open’and ‘close’

The EthSL signs for 'true' and 'false' are antonyms. While their phonological components are related, they share a palm orientation, hand shape, and location. They are different in hold-movement-hold structure. The movement of hands is directed toward upward and sideward direction from the signer. Then the distinction in meaning lies in the difference in the final movement parameter. When the movement of the pointing finger is upward, it makes the sign true; however, when its movement is done sideward from the signer, it makes the sign false.



Figure 28: Sign illustrations for ‘true’and ‘false’

Most opposing signs have shown the opposite direction of the movement. Directional signs mainly use the movement of the sign to the direction they refer to form opposite signs. Directional antonyms in EthSL are expressed by using the direction of the movement parameter of the initial sign. These opposites express the relationship between two entities from different viewpoints. The signs for 'up' vs 'down', 'go' vs 'come', and 'in' vs 'out' can be taken as examples of directional signs.

The EthSL signs for 'up' and 'down' are antonyms; their phonological components are related, and they share a palm orientation, handshape, and location. However, they are different in hold-movement-hold structure. To make these signs, the movement of hands needs to show upward and downward directions from the signer. Then the difference in meaning lies in the difference in the movement parameter. While moving pointing fingers upward makes the sign for 'up', moving it downward refers to 'down'.

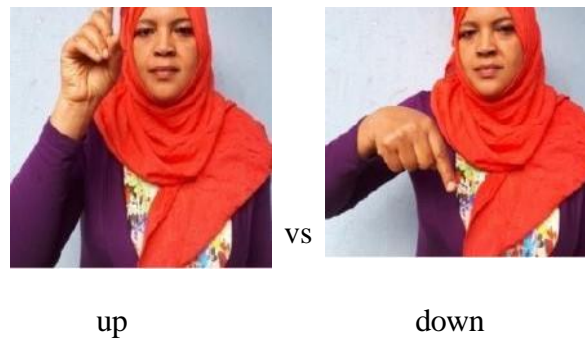


Figure 29: Sign illustrations for 'up', 'down'

The EthSL signs for 'come' and 'go' are antonyms; their phonological components are related, and they share a palm orientation, handshape, and location. However, they are different in hold-movement-hold structure. The movement of hands is directed toward forward from the signer to mean 'go'. And when the movement of the hand points toward the signer, it refers to 'come'. Then the difference in meaning lies in the distinction in the final movement parameter.

The EthSL signs for 'in' and 'out' are also antonyms; their phonological components are related, and they share a palm orientation, handshape, and location. However, they are different in hold-movement-hold structure. To make the sign for 'in' the movement of the dominant hand points downward toward the non-dominant hand. When the dominant hand takes the upward position against the non-dominant hand, it makes the sign for 'out'. Here again, the difference in meaning lies in the difference in the final movement parameter.



in

out

Figure 30: Sign illustrations for ‘in’ and ‘out’

#### 4.2.1.2. Changing the Orientation Parameter of Sign to Opposite Direction

As seen from the collected data, some signs form antonymic signs by changing their orientation parameter to the opposite direction (see the signs illustrated in Figure 30 above).



good

bad

Figure 31: Sign illustration for sign ‘good’ and ‘bad’

As one can learn from Figure 31 above, the sign for 'good' is formed by moving the dominant hand toward the signer's lips. However, when the palmar side of one's hand (figures) of the dominant hand lies on the palmar side of her/his non-dominant hand, he can make a sign for 'bad'.

About the above-described antonym signs in EthSL, their respective phonological forms such as handshape, location, and palm orientation are closely related for both opposing signs. However, in the spoken counterpart, the Amharic language, the phonological forms of these antonym words relation is not likely to happen. The respective phonological forms of antonymy in Amharic words are not related.

### 4.2.1.3 Morphological Process of Forming Antonyms in EthSL

These are other pairs of antonymy signs in EthSL. These antonyms are related by a morphological process because the change in the final palm orientation has the effect of changing the meaning of the sign. These types of antonyms are also found in ASL (Lucas 2005) and Auslan (Johnston and Schembri 2007). Some examples of antonymy signs that appear to be related by a morphological process through the change of the final palm orientation of the initial sign that in turn the meaning of that sign are, illustrated in Figure 32 below. However, they are rare and we are not sure of their morphological productivity.

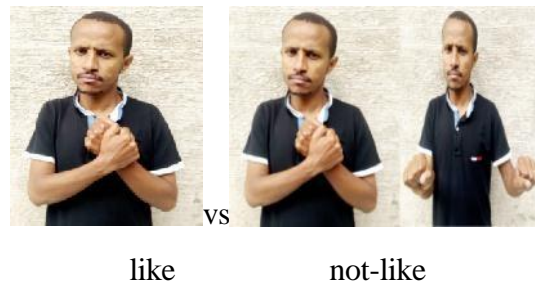


Figure 32: Sign illustration of antonymy for sign 'like' vs 'not-like'

Antonyms in EthSL can also be expressed by easily adding the prefix "NOT" at the start of the initial sign. When signs are followed by a negative sign "NOT", they become opposite to the initial sign in meaning. The negative marker "NOT" is used when there is no other means to form the opposite. These signs are morphologically called derivational antonyms. According to Cruse (1986), a morphological antonym is one type of category of antonym where the opposite of a lexical item is formed by the addition of a negating affix. Examples of such types of antonyms are shown below. EQUAL versus EQUAL-NOT ( the sign for 'equal' is expressed without the addition of a negating affix (not) while the sign for 'not-equal' is formed with the addition of a negating affix (not).

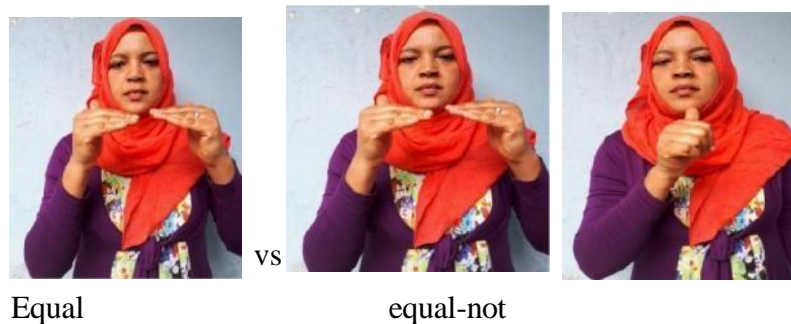


Figure 33: sign illustrations for 'equal' and 'not-equal'



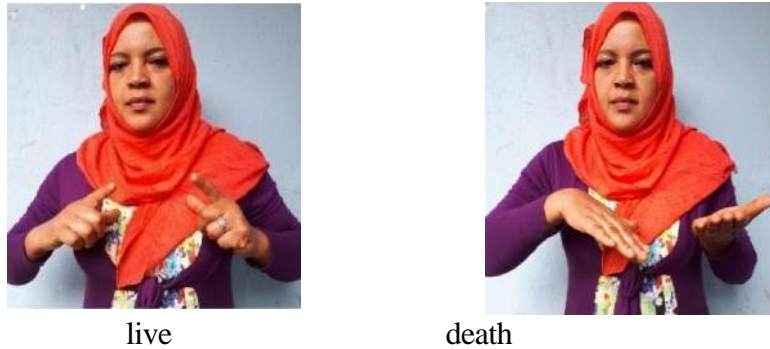


Figure 36: Sign illustrations for 'live' and 'death'

This is considered a main type of antonym consisting of lexical opposites that are not morphologically related to each other (Deese, 1964; Lyon, 1977; Richards, 1967). As observed from the collected data, typically antonym sign pairs that share all but one dimension of their meaning where signs portray an opposite lexical relationship can also be considered as semantically similar. When we look deep into antonyms, we can find many types of relations that involve lexical items which can consist of either similar or incompatible (contrastive) features in some aspect of their meaning.

#### 4.2.2. Categorization of Antonyms in EthSL

Researchers have identified and categorized antonyms into different forms according to their characteristics. Cruse(1986) identifies the types of antonyms as contradictory, contrary, directional, and reverse. According to him while contradictory antonyms refer to terms that are opposed dichotomously as in alive-dead, contrary antonyms denote terms that are opposed symmetrically on a continuous dimension as in hot-cold. He further claims that directional antonyms, for instance, before-after or above-below describe concepts opposed in time or space. He finally indicates that reverse antonyms sometimes called converses antonyms represent opposed actions as in buy-sell.

Furthermore, Yule (1979) mentions four types of antonyms. They are simple, gradable, reverses, and converses. According to him, simple antonyms (also called complementary pairs or binary pairs) refer to words in which the negative of one implies the positive of the other as in 'pass' vs 'fail'. He also describes antonyms as the relationship between opposites in that the positive of one term does not necessarily imply the negative of the other as in 'rich' vs 'poor'. In his words, reverse antonyms refer to where one term describes movement in one direction while the other term describes the same movement in the opposite direction as in 'push' vs 'pull'. He finally explains converse antonyms the relation between two entities from different viewpoints as in 'above' vs 'below'.

Katz (1972: 159) also notes that antonymy can have several subcategories all of which are broadly antonyms in that their senses are so opposed in such a way that the members of a pair of antonyms are mutually exclusive in their application. He lists categories and subcategories of antonyms as follows.

**Gradable antonym:** as mentioned above, this sort of antonym is characterized by gradability. The items are gradable; they can hold varying degrees of the relation between the items which is contrary to the assertion that the initial can be the negation of the other but not vice versa (Murphy 2006:14). One can find such kind of antonym in the data collected for this study. For example, signs for 'tall vs short', 'large vs small', and 'wide vs narrow' are some instances of gradable antonyms in EthSL. Palmar (1976: 76) states that one of the items is marked, and only the marked item is used to ask or describe the degree of gradable quality. This is also true in EthSL signs. For instance, if we see this situation taking LONG and SHORT as a sample of gradable antonyms, we most frequently use long than we use short. Oftentimes, we say "it is two meters long" rather than saying "it is two meters short".

In gradable antonyms, the relationship between words/signs typically manifests two characteristics. There are usually intermediate terms between gradable antonym members, and they (the terms) are typically relative in character. In this regard, the sign for 'medium' is mainly used to express something intermediate. For example, signers use the sign for 'MEDIUM' to express that something is not either too hot or too cold, but is rather intermediate. In other words, it stands either for 'MEDIUM-HOT' or MEDIUM-COLD. Practically, there is no precise measure exists to sign whether an object is hot, medium-hot, or medium-cold. Furthermore, signs for RICH/POOR, YOUNG/OLD, and WIDE/NARROW are some examples of gradable antonyms.

The signs for 'tall' and the sign for 'short' are antonyms that can be taken as examples of the typical relative character. Of course, it is possible to see how the concepts of "tall" and "short" are related. For example, in the domain of people, a mother can be taller than a daughter but shorter than a father. Gradable antonyms can show degrees of the concept to which they refer. Something can be relatively taller or shorter; something can also be relatively wider or narrower. The fact is that tall and short as well as wide and narrow are pairs of antonyms. Sapir (1944) argues that the comparative forms of the adjectives (ending with -er or occurring with more) are explicitly graded, so we can say that one road is wider than another.

Gradable antonyms that show degrees of meaning are observable in EthSL. Signers use movement roots patterns, handshape size, and non-manual signals to represent the size of an object, entity, place as well as a person. For example, the signer may use a particular handshape and movement to

represent the meaning bigger or bigger to show the relative size of an object. Factually, the signer uses a spread handshape instead closed 5 handshape and moves them apart from each other broadly than they do normally. In contrast, the signer may use a particular handshape and movement to represent the meaning of smaller or smaller to show the relative size of the object. Thus, the signer uses a matted 5 handshape and moves them nearer to each other.

This is also considered a simple antonym where the relationship between the words in which the negative of one implies the positive of the other. Concerning complementary pairs or binary pairs Lyons (1968:460) states that the terms that are complementary to each other, are in some ways similar to gradable antonyms where both exhibit incompatibilities i.e. if something is wide it means that it is not narrow.

**Non-gradable antonyms of EthSL:** In this type of antonymy category, there are no intermediate terms between the two opposing pairs. However, as shown below consists of various types of non-gradable antonyms such as directional, antipodal, and kinship.

Directional antonyms in EthSL: directional antonyms exhibit a reversal relationship between items/signs or arguments as pointed out by Palmer (1976:79). We shall analyze the directional antonyms by categorizing them as reverse opposition and converse opposition. These relations are often characterized as symmetry, transitivity, and reversibility.

Reverse Opposition: In this opposition category of directional antonyms, the terms that indicate movement in such a way where one form describes in one direction and the other one in the opposite direction. According to (Plamer: 1977:77), the opposing pairs differ in the directions they describe. The data collected for this shows that the reverse signs appear to form directional antonyms. For example, the sign for 'come' indicates 'move towards the signer while the opposite sign for 'go' displays 'moving away from the signer (see Figure 37 below)

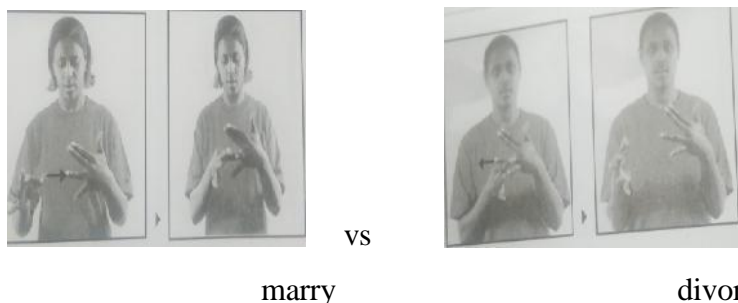


Figure 37: Sign illustration for 'marry' and 'divorce'

The sign meaning 'to marry' is designated by moving the hands towards the signer; however, during the opposite sign for 'divorce,' the hand movement is done away from the signer.

Other, reverse signs in the directional antonymy category are also observed and expressed by 'moving towards the signer' and 'moving away from the signer'. In this regard, the signs for 'enter' vs 'out' are good examples. The sign for 'enter' is formed when the signer's hands move towards her/him. Contrary to this, the sign for 'out' is made when the signer's hands move away from her/him. These relations between senses of the lexeme signs are referred to as reverse antonyms. However, it is good to note this might not apply to all reverse antonym signs in EthSL. For example, as shown below in Figure 38, the movement structure is upward or sideward for a given reverse opposite signs in EthSL such as 'alive' and 'dead'.

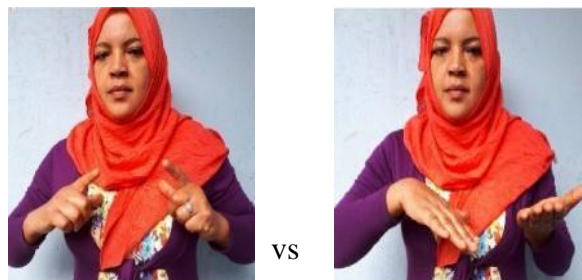


Figure 38: Sign illustration for opposite signs 'alive' and 'dead'

Interestingly, the English or Amharic words for 'alive' and 'dead' and the EthSL signs 'alive' and 'dead' can be considered as nongradable antonyms in that one person sees the other person either alive or dead, not both alive and dead. However, it is good to note that language speakers and sign language users sometimes use non-gradable antonyms as if they were gradable.

The English expressions "half-dead" or "barely alive" and their EthSL equivalents could be cases in point. Thus, the EthSL equivalent of "half-dead" uses the sign for dead in a slightly modified way in which the final hold is in a location closer to the initial hold; it is a bit different from the sign for dead shown above (see Figure 38). Gradation, then, might not be formed by producing a whole new sign, but it can rather occur by altering some feature of the already existing sign. The signs for 'awake' vs 'sleep' in EthSL can be taken as good examples for such sort of grading.

**Converse opposition:** Saeed (1997:67) mentions that converse oppositions are oppositions that encompass the term that describes the relation between two entities from the alternative point of view. Signs in EthSL display this kind of opposition. Some of the instances of these oppositions are illustrated in Figures 39, 40, and 41 below



borrow

lend

Figure 39: Sign illustration for 'borrow' vs 'lend'



buy

sell

Figure 40: Sign illustration for 'buy' vs 'sell'



husband

wife

Figure 41: Sign illustrations for 'husband' vs 'wife'

Other instances of these types of antonyms are 'teacher' vs 'student', 'left' vs 'right', and 'above' vs 'below'.

**Antipodal Opposition:** antipodal opposition is one type of directional antonym. Lyons (1977: 273) states that the lexemes are opposed to their converse in the two-dimensional space. In some spoken languages, antipodal opposition operates well in color terms and direction terms. This is also true in EthSL where sign pairs display antipodal opposition. Below are some examples of antipodal opposition in EthSL.

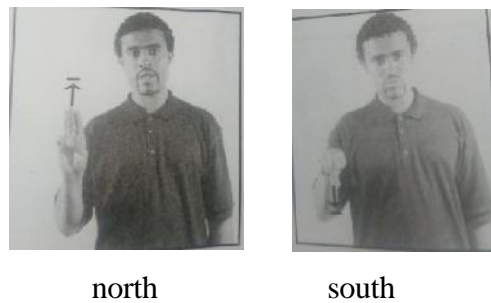


Figure 42: Sign illustration for 'north' vs 'south'



Figure 43: Sign illustration for signs 'east' vs 'west'

**Kinship Opposition:** As pointed out by Lyons (1977: 284), kinship vocabularies in many languages also manifest the principle of kinship in various ways even though the opposing pairs contradict each other based on sex in family taxonomy. The kinship signs in EthSL are depicted through relative oppositions. In this study attempts have been made to take into account the signs related to the family and relationship thematic category to discuss the aforementioned opposition. EthSL displays this kind of opposing principle. Below are the pair signs of kinship opposition taken from the EthSL dictionary.

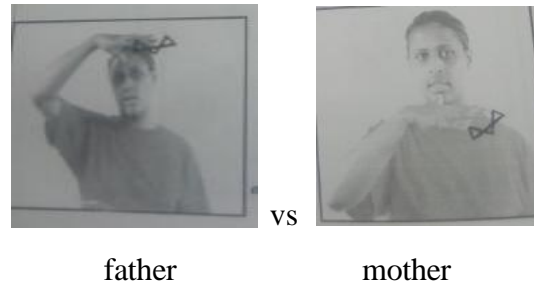


Figure 44: Sign illustration for ‘father’ and ‘mother’

The antonyms for 'father' and 'mother' differ only with the location parameter (the sign for 'man' is located on the forehead but the sign for 'woman' is located on the cheek). However, the same handshape, movement, and palm orientation are used to form them. Thus, the differences in locations can change the meaning of pair antonyms.



Figure 45: Sign illustration for ‘male’, ‘female’

Likewise, the antonymy sign for 'man' and 'woman' differ only with the location parameter (the location for the 'sign' man is on the forehead but the location for the sign referring to 'woman' is on cheek). However, these two are also formed with the same handshape, movement, and palm orientation.

To sum up, antonyms refer to words/ signs that consist of opposite forms of meanings. The ways of forming antonyms in EthSL could involve opposite movement, location, palm orientation, and morphological processes. The characteristics of antonymic signs in EthSL can also be examined by antonyms in spoken languages.

### 4.3. Synonymy in EthSL

Synonymy is one of the lexical-semantic relations that has been extensively studied from different perspectives. From the semantic point of view, synonyms are the relationships between two lexical items (words) that have the same meaning but different forms. Whereas, from the linguistic point of view, synonyms are different phonological words that have the same or very similar meanings (Yule, 1996; Saeed, 1997). Interestingly, from the lexical relation point of view, synonyms are two or more words having the same or almost the same meaning is correct (Geeraerts, 2010). Therefore, synonymy deals with the sense/semantic relation of 'sameness' of the meaning of words or signs despite their phonological differences.

Serban (1978:23) maintains the general definition of synonymy as "different words in the form, but close or identical in meaning or different significant (different phonetic forms) which can express almost the same significance (meaning)." Synonymy has been studied in many spoken languages, and studies reveal that it is rare to have true/absolute or complete synonymy.

Researchers also applied criteria to identify and express synonymous words. According to Lyons (1995:61), two or more expressions are synonymous, if and only if, they satisfy the following three conditions:








- A. When their meanings are identical;
- B. When they are synonymous in all contexts, and
- C. When they are semantically equivalent (i.e. their meaning or meanings are identical on all dimensions of meaning, descriptive and non-descriptive.)

Meyer (2009:170) also suggests the true test of synonymy in terms of their substitutability; according to him, the true test of synonymy occurs depending on the ability of two words to be substituted for one another without a change in meaning. Apresjan (1957: 87) also supports the concept of substitutability that Meyer proposes.

Although synonymy is extensively studied in spoken language, the researcher could find a few well-crafted literature compiled about synonyms in sign language. Johnston and Schebri (2007) in their Auslan linguistic book explain that synonyms are lexical items with different phonological forms that have the same or similar meanings; they also forward some examples of synonymous signs in Auslan. Konard (2013) also describes synonymous signs as having different forms and different underlying images. He further says that synonymous signs in German Sign Language (DGS) are signs with the same meaning. However, to the best knowledge of the researcher.

The synonymous signs in EthSL below are obtained from the informants and the EthSL dictionary. The illustrations of each synonymous sign, their meanings, and their sources are listed in Table 4 below.

Illustration of synonymous signs	Meaning	Data Source
	Go	Video recording
	Home	Video recording
	change	Video recording
	Come	Video recording
	Borrow	Video recording
	hungry	Video recording

		Sport	Video recording
		Baby	Video recording
		brother	Video recording
		sweet	Video recording
		Bread	Video recording
		Rich	Video recording
		Wife	EthSL Dictionary Analysis

	female	EthSL Dictionary Analysis
	husband	EthSL Dictionary Analysis
	father	EthSL Dictionary Analysis
	Sister	EthSL Dictionary Analysis
	Mother	EthSL Dictionary Analysis
	Single man	EthSL Dictionary Analysis
	Single woman	EthSL Dictionary Analysis




	Male	EthSL Dictionary Analysis
 510. kA- (PAA)S- (A)PAP- (A)PAP- (S)PAA- kilo, kilogram (The signs can be used alternatively.)	Kilo, Kilogram	EthSL Dictionary Analysis
	Egg	EthSL Dictionary Analysis

Table: 4. Synonyms in EthSL

The synonymous signs listed in Table 4 above are very likely to signify different signs in form, but they are close or identical in meaning or 'signs with different phonological forms (i.e. different in sign parameters) that have the same or similar meanings. They are identified based on previous definitions of synonymy in both spoken and sign languages. The list of synonymous signs in EthSL obtained from the data is 25 in number.

Simply, synonyms describe two signs as being synonymous when they have different phonological features despite their sameness in meaning. The signs for 'walk' presented in Figure 46 are cases in point. The forms of the signs for 'walk' are phonologically (i.e. handshape, movement, orientation) different, but they have the same meaning (i.e. walk.).

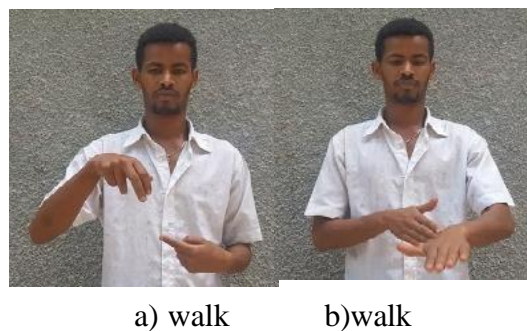


Figure 46: Sign illustrations for 'WALK'

Similarly, the two forms of the signs for 'baby' appear to have the same meaning (baby), but they are different in their phonological features. The two signs illustrated in Figure 47 below are different in hand shape, movement, palm orientation, and location, but they are the same in meaning. According to the informants, signers use these two signs alternatively to mean 'baby'.

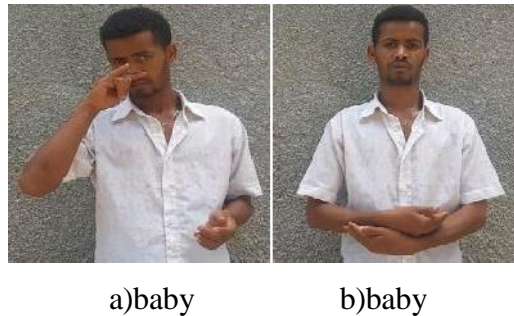


Figure 47: Sign illustrations for 'baby'

In addition, the signs below also appear as synonymous signs in EthSL. The two signs illustrated in Figure 48 are formed to mean 'borrow'. Although these signs are different in handshape, location, and palm orientation, they denote the same meaning (i.e. borrow).



Figure 48: Sign illustrations for 'borrow'

The sign that is listed in the EthSL dictionary for 'sweet' and the one used by deaf people are phonologically different, but they are synonymous due to the sameness of their meaning.

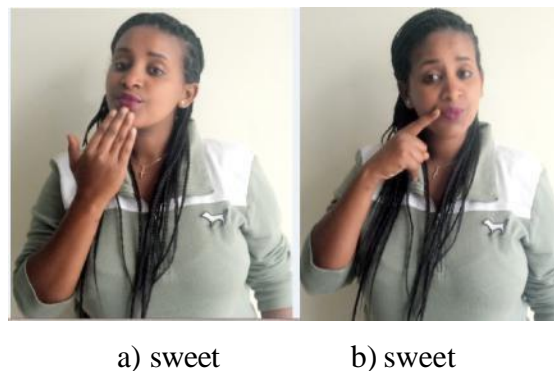


Figure 49: Sign illustration for 'sweet'

In the case of the sign denoting BREAD, all four signs are phonologically different, but they stand for the same meaning. The handshape, movement, location, and palm orientation of these signs are different although their meaning is the same.

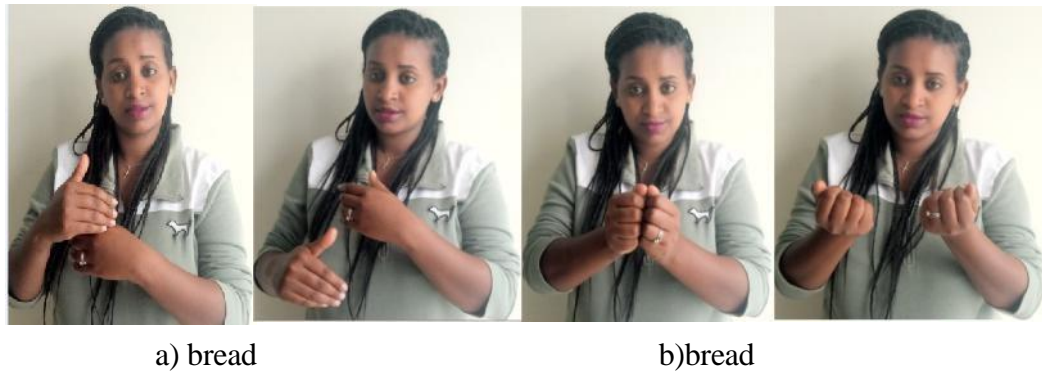


Figure 50: Sign illustrations for 'bread'

There is a possibility of substituting one sign for another. For example, the signs for 'Home and House' are phonologically different, but they have similar meanings. Phonologically, both are signed differently even though they are near synonyms.

Indeed, attempts have been made to look deeply into the entire sign entries of the EthSL dictionary to identify synonymous signs. As a result, the presence of presence of synonymous signs in the dictionary is identified although they are not clearly explained.

Roget (1995:66) in semantic description suggests that the words may belong to different registers, styles of language, colloquial, formal, literary, etc. depending on the situation. As an example of such distributional effects on synonyms, we might take the various signs used for the 'KHAT' among the EthSL users. The sign for KHAT can be formed either by tapping the chest part with one hand arm or by tapping the head with two open hand handshape like a sign for CABBAGE. The forms of the signs are different, but they are synonymous due to the distributional effect of colloquial styles. As one can learn from the collected data for this study, the setting could determine the distributional effect of the signs. For instance, the sign for SWEET is differently formed in the northern and central regions of Ethiopia. However, the signs for SWEET used by EthSL users of the two regions are synonymous. Furthermore, while examining the data, one can see as to how registers of signs in EthSL are common. The register signs in EthSL mainly involve the changing two-handed signs into one-handed signs, reduction of movement of hands, and narrowing locations of signs.

### **4.3.1. Types and Classification of Synonyms in EthSL Lexical Signs**

As reviewed in the literature, Lyons (1995) lists common types of synonyms. According to him, synonyms that do not have identical senses but that are close in meaning are considered near-synonyms. On the other hand, sense or complete synonyms refer to terms/signs that share one or more senses and match with that sense in every other property. Whereas, partial synonyms stand for terms/signs that share some senses even though they differ in some aspects.

Vinogradov (1986: 23) also classifies synonyms; for him, total synonyms can replace each other in any given context without the slightest alteration. In addition, he describes ideographic synonyms synonyms that consist of the same idea even if they are not identical in their referential content. He also identifies a synonym that pertains to different variants of language from a dialectal stratification point of view as a dialectal synonyms. The last two synonyms that Vinogradov addressed are contextual synonyms and stylistic synonyms. According to him, while the former refers to words with different meanings, the latter stands for synonyms that belong to different styles. Palmer (1976) mentions at least five ways in which synonyms can be seen differently (see it in the review of related literature section).

Based on the general classifications of synonyms mentioned above, it is tried to discuss their types and classifications in EthSL below.

Total synonymy in EthSL: Although Ullman (1962) identified the presence of total synonymy in languages as rare, the occurrences of total synonymy in which one lexical sign is replaced by another lexical sign with the same meaning are observed in the data collected on EthSL for the present study. Below are some instances of total synonymy in EthSL that were collected from the video elicitation.



a) go                      b)go                      c)go

Figure 51: Sign illustrations for go



a) change                      b)change

Figure 52: Sign illustrations for change



a)come                      b)come

Figure 53: Sign illustrations for come

It is noticeable that the sign for 'angry' is replaced by the second sign for it (angry) in context.

Similarly, the sign for 'home' is replaced by the second sign for 'home' in context.

**Ideographic Synonyms:** Ideographic synonyms bear the same idea, but they are not identical in their referential context. They convey the same notion despite their differences in shades of meaning. In this study, it was tried to investigate the MetaLanguage interactive data to apply the ideographic synonym principle for EthSL signs. Some examples of ideographic EthSL signs include the signs for 'demolish', 'money', 'long', and the like. These ideographic synonyms

correspond to the same referential area that denotes the same thing or a set of closely related things, which are different in the denotational aspect of their meaning; their interchange would result in slight change.

For example, in principle, the sign for 'long-1' and the sign for 'long-2' bear the same idea but are not identical in their referential content. It is to mean that while the sign for 'long-1' refers to distance, the sign for 'long-2' refers to individual or object height.

**Dialectal synonyms:** EthSL exhibits some regional variances(Kidane 2011; Eyasu 2016). These variant signs are referred to as dialects of EthSL. Dialectal synonyms that pertain to different variants of EthSL from the dialectal stratification point of view become a dialectal synonymy. Some instances of dialectal synonyms depicted through the collected data are the signs for 'sweet', 'well', and 'sport'.

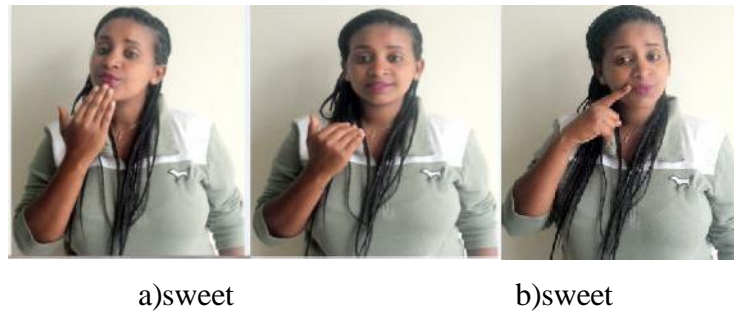


Figure 54: Sign illustrations for dialectal sign sweet

**Stylistic Synonyms:** Stylistic synonymy signs in EthSL are signs that belong to different styles of signing. These stylistic signs may be considered neutral and colloquial. Some examples of stylistic synonyms include signs for COME, CHANGE, HUNGRY, etc. These signs refer to the same meaning, but they are stylistically different in signing. According to Palmer (1976), they are similar in their initial and their differences lie in their usage.

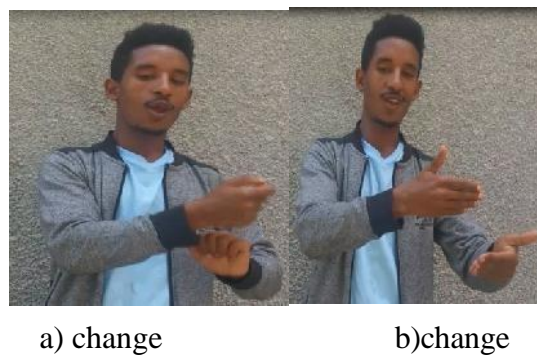


Figure 55: Sign illustration for 'change



a)go

b)go

c)go

Figure 56: Sign illustration for ‘go’



a) hungry

b)hungry

Figure 57: sign illustration for hungry

According to Palmer (1976), if we look at possible synonyms, there are at least five different ways in which they can be seen. Some sets of synonyms belong to different dialects of the language; some words are used in different styles where the difference lies in their usage. Some words may be said to differ only in their emotive or evaluating meanings. Still, some words are collocational restricted/that they occur in different environments. And many words are close in meanings or that their meanings overlap.

As one can see in the collected data, some synonyms are lexical items with different phonological forms (handshape, movement, location, and palm orientation) that have the same or similar meanings. Examples of synonyms in EthSL include different variants of SWEET, HOUSE, BROTHER, BREAD, etc. Although the descriptive meanings of the various forms of the sign SWEET are the same, they are different in their social meaning. Thus, the variant of the sign SWEET with the index handshape touching the mouth and moving away is associated with the northern dialect (used by the deaf community in Adigrat, Mekelle, and neighboring towns). Whereas, the form with the opened handshape touching the chin and moving away is used elsewhere in the country.

Thus, synonymous signs in EthSL can phonologically be variants that consist of similar forms, and the same underlying image and meaning; subtypes are replaceable in context.

Similarly, the two forms of the sign for FATHER appear to have differences in affective and social meaning; the form on the forehead is more widely used elsewhere in the country. Some signers prefer it to form the EthSL equivalent of 'BABA ' when they communicate with small children to the sign for FATHER that appears on the chin. Of course, the sign for FATHER that appears on the chin is used by the deaf community in rural areas, especially with indigenous signers for particular communicative effects. This also indicates that the expressive meaning of the two forms is different in EthSL.

### 4.3.2. Sources of Synonymy Signs in EthSL

The collected data for this study were thoroughly examined to identify the sources of synonymy signs in EthSL. Some suggested sources of synonymy signs in EthSL are presented as follows:

#### 4.3.2.1. Through foreign borrowing

Since EthSL has been in contact with ASL for years, it is assumed that some EthSL signs are borrowed from ASL. The coexistence of the two signs eventually paved the way for the users of EthSL to borrow some from ASL. The sign for 'father' is a case in point. The sign for father-1 is lexically the same as the ASL sign for 'father'.



Figure 58: Sign illustration for father-1,(EthSL) and father-2 (ASL)

#### 4.3.2.2. Through adaptation variants of EthSL Signs

Some signs in EthSL become synonymous as a result of the adaptation of dialects and variants within EthSL itself. A good example of this is the EthSL sign for 'sport'. Sign-1 in Figure 59 below is the variant form of the sign for sport which is mainly used by deaf signers at Hossana while the sign-2 for sport is mainly used by the deaf people residents in Addis Ababa.



a) sport

b)sport

Figure 59: Sign illustration for ‘sport’

#### 4.3.2.2. Through Using Signs in Different Styles of Signing.

Some signers use different styles in signing so that signs become synonymous in this way. For example, the EthSL sign for HUNGRY can be taken as an example of this kind of synonym (see illustration 60 below for signs 'hungry-1' and 'Hungary-2'). These signs could also be considered formal and informal respectively.



a) hungry


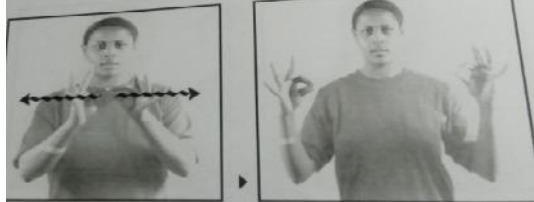



b)hungry







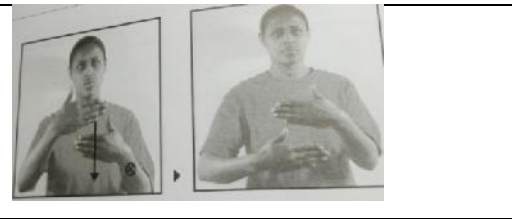
Figure 60: Sign illustration for hungry

#### 4.4. Homonymy signs in EthSL

In spoken language, homonyms are words that have the same form, but they are unrelated in meaning. Similarly, in EthSL homonyms are signs which have the same form, but their meanings are unrelated. Homonyms can be viewed as homophones where words are pronounced identically, and they can also be considered as homographs where words are spelled the same way but with unrelated meanings (Murphy, 2006). In many studies, the clear-cut criteria to differentiate homonymy from polysemy is not indicated; however, etymological criterion and relatedness and unrelatedness of words or signs are

commonly used to distinguish them. In EthSL the former criterion, i.e. etymology, plays a crucial role in distinguishing homonymy signs from polysemy signs. In the case of the EthSL, homonymy signs can be treated as homophones while homographs are not available because there is no commonly accepted writing system developed for sign languages despite some attempts made in the past. Some signs in EthSL are considered as homonyms proper when they are identical in signing parameter but different in meaning. The data especially taken from the EthSL dictionary show the presence of some homonymy signs in EthSL.

Identified homonymy signs	Meaning	Data Source
	cereals, mill	EthSL Dictionary Analysis
	sentence, folk-tale	EthSL Dictionary Analysis
	professor, professional	EthSL dictionary Analysis
	tube, cave	EthSL Dictionary Analysis
	drum, eardrum	EthSL Dictionary Analysis

	<p>Position, permanent</p>	<p>EthSL Dictionary Analysis</p>
	<p>name, noun</p>	<p>EthSL Dictionary Analysis</p>
	<p>soldier, guard</p>	<p>EthSL Dictionary Analysis</p>
	<p>Know, knowledge, accreditation</p>	<p>EthSL Dictionary Analysis</p>
	<p>mind, deliberate/intention</p>	<p>EthSL Dictionary Analysis</p>
	<p>whistle, referee</p>	<p>EthSL Dictionary Analysis</p>
	<p>Port, frontier</p>	<p>EthSL Dictionary Analysis</p>






		Group, family	Elicitation interview
		Rich, property	Elicitation interview
		Electric, physics	Elicitation interview
		Old, elder	Elicitation interview
		Wish, thirsty	Elicitation interview

Table 5: Homonyms in EthSL

Going through the collected data, one can identify different reasons that contributed to the appearance or occurrence of homonymy signs in EthSL. For instance, if a form of an initial or original sign is iconically similar or closely similar to another form but different in meaning, the signers may extend the same sign to the original (see Figure 61 sign for 'cave', 'hollow' and 'tube' below).



Figure 61: sign illustration for ‘cave’, ‘hollow’ ‘tube’.

The other way of creating homonym signs in EthSL by signers is signing conversion. While processing grammatical conversion, the signers might drive some signs from the original one although they are different in meaning. The derived signs could co-exist by representing two or more unrelated meanings. For example, the sign for 'rich' and 'property' is formed in this way.



Figure 62: Sign illustration for ‘rich’ and ‘property’

In other cases, homonyms can occur as a result of borrowing when several different signs become identical in signing. In this regard, Kaehb (2010) confirmed that some homonym words in English are created as a result of borrowing from other languages. This could well be the case for EthSL which had been in contact with ASL. Some examples of homonyms in EthSL formed through borrowing are the signs for PROFESSIONAL and PROFESSOR. One of the two signs is borrowed from ASL to mean professional and professor, the same sign but a different meaning.

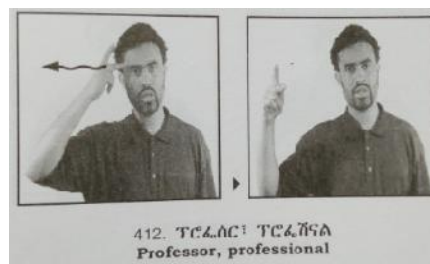














Figure 63: Sign illustration for ‘professional’, ‘professor’









#### 4.5. Metonymy in EthSL

Metonymy seems different from all other mentioned lexical relations. This becomes vivid for one when she/he examines the definition of metonymy from a sign language point of view. In sign languages, metonymy is known by mapping entities within the same domain. Explaining metonymy, Lakoff and Jonson (1980:35) pointed out that metonymy has primarily a referential function; therefore, it allows us to use one entity to stand for another. One can choose different aspects of referent depending on his/her focus. Considering the use of metonymy in ASL as a model, this study analyzed the applications of signs for different animals in EthSL. Thus, the study identified signs for animal thematic groups included in the EthSL dictionary, and it described the different aspects of forming metonyms in EthSL. The list of animals' thematic groups taken from the EthSL dictionary is presented in Table 6 below:

Identified metonymic signs	Meaning	Data source	Physical features associated with individual animals
	Cow	Video recording	Horn
	Dove	EthSL Dictionary	Feather
	Spider	EthSL Dictionary	legs
	Fox	EthSL Dictionary	Nose

	<p>Snail</p>	<p>EthSL Dictionary</p>	<p>Horn</p>
	<p>Giraffe</p>	<p>EthSL Dictionary</p>	<p>Ears</p>
	<p>Sheep</p>	<p>EthSL Dictionary</p>	<p>Hair</p>
	<p>butterfly</p>	<p>EthSL Dictionary</p>	<p>wings</p>
	<p>Tiger</p>	<p>EthSL Dictionary</p>	<p>Body and color</p>
	<p>Bee</p>	<p>EthSL Dictionary</p>	<p>Legs/antenna</p>
	<p>Donkey</p>	<p>EthSL Dictionary</p>	<p>Ear</p>
	<p>Pig</p>	<p>EthSL Dictionary</p>	<p>Mouth</p>

	Eagle	EthSL Dictionary	Feather
	Lion	EthSL Dictionary	Mane
	crocodile	EthSL Dictionary	Mouth
	Deer	EthSL Dictionary	Horns
	Snake	EthSL Dictionary	Tial
	Frog	EthSL Dictionary	Legs
	Kangaroo	EthSL Dictionary	Feather
	Bird	EthSL Dictionary	Beak

	<p>Dog</p>	<p>EthSL Dictionary</p>	<p>Bark</p>
	<p>elephant</p>	<p>EthSL Dictionary</p>	<p>Trunk</p>
	<p>monkey</p>	<p>EthSL Dictionary</p>	<p>Leg</p>
	<p>Zebra</p>	<p>EthSL Dictionary</p>	<p>Black and White stripes</p>
	<p>Hen</p>	<p>EthSL Dictionary</p>	<p>Beak</p>
	<p>Ant</p>	<p>EthSL Dictionary</p>	<p>Legs</p>
	<p>Camel</p>	<p>EthSL Dictionary</p>	<p>Neck</p>
	<p>Rabbit</p>	<p>EthSL Dictionary</p>	<p>Ear</p>




	grasshopper	EthSL Dictionary	Leg
	goat	EthSL Dictionary	Horn
	Farmer	EthSL Dictionary	Handle
	Bucket	EthSL Dictionary	Handle
	Cloth, to wear	EthSL Dictionary	Wear
	Banana	EthSL Dictionary	Peel

Table: 6. List of Metonyms in EthS

As indicated above, the signs for animals are metonyms. These all related physical features are associated with animals. Therefore, metonymic expressions, mostly animal signs, are the most common ones in the EthSL dictionary.

### Types of EthSL Metonymies

As explained by Wilox (1993), different types of metonyms occur in ASL. In this study, it was tried to identify and describe the occurrence of metonymies in EthSL as follows:

#### Portotypical characteristic for whole entity

In this type of metonymy, a prototypical characteristic is used to represent the whole entity in EthSL. They are also referred to as simple lexical metonymies. Signs in this type of metonymies are

commonly depicted prototypical physical properties. For example, DONKEY and COW are types of prototypical characteristics for the whole entity. Thus, the signs for these animals depict their prototypical physical properties (the animals); practically, they refer to the ear, the horn, and the feather of the aforementioned animals respectively.

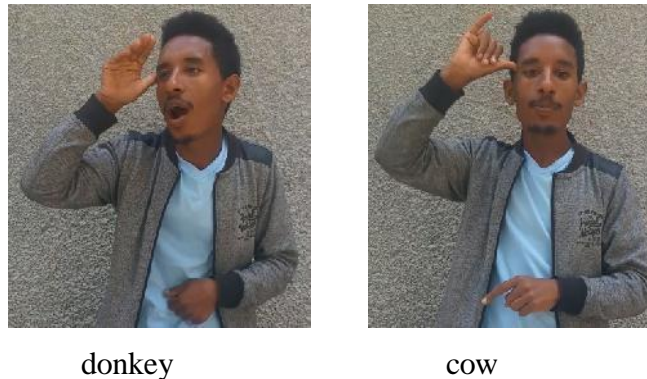


Figure 64: Sign illustration for 'donkey' and 'cow'

**a) Action for Instrument**

According to Wilcox (1993), the hands in interaction with some object/instruments represent the instrument of the action. In EthSL, the sign for DRUM for example is denoted by the hands with flat palms moved in a way representing the action of drumming.

**b) Metonymy and Name Signs in EthSL**

Wilcox (1993) stated that name signs function much like proper names in that they refer to a particular person instead of an object or concept common to the experience of all users of the language. Furthermore, Supalla (1992) and Wilox (1993) identify two distinct types of name signs; they are called 'arbitrary' name signs and 'descriptive' name signs. Both of them are thought to rely on different strategies in their formations. Practically, they rely on meaning, and they do so metonymically. Arbitrary name signs have no meaning other than they represent the person's name; it does not reflect in any way the person's appearance or personality. Whereas, descriptive name signs provide some representation of the person's appearance or personality. If a person has a salient visible attribute such as teeth, her/his name sign might use a handshape that is a classifier for the shape of the teeth, produced at the mouth location, and with a reduplicated movement.

To identify and describe metonymy and name signs in EthSL, participants were asked to sign their names. And most of the participant's name signs were identified as arbitrary. Their names are initialized Amharic names and signed by putting their hands somewhere on their face and body. So, their name signs have no meaning other than representing the initial of their written Amharic names.

The semantic lexical relations such as polysemy, antonymy, synonymy, homonymy, and metonymy are described based on the data obtained from both informants and the EthSL dictionary. To elaborate as to how these semantic relations are expressed in EthSL, the relations are discussed based on spoken language literature on semantic relations and some explorational examples in sign languages. Their forming patterns, categorization, and sub-categorization as well as their sources were investigated in line with the review of literature. Following this, attempts have been made to discuss how these semantic relations are tackled in the EthSL dictionary to explore implications for future dictionary-making efforts.

#### **4.6. Evaluating EthSL Dictionary**

Before looking into the lexical-semantic structure in the EthSL dictionary, the researcher would like to investigate the general structure of the EthSL dictionary. The principal information such as authority, general information, macro-structure, microstructure, mega structure of the dictionary, and semantic relation patterns on the dictionary shall be discussed. Then, the semantic structure of semantic relations shall be described and explained by citing some examples extracted from the EthSL dictionary. This, in turn, provides lexicographers and language researchers with detailed information concerning semantic structure in EthSL.

To evaluate the EthSL dictionary, the researcher applied the criteria that scholars have suggested for evaluating dictionaries of oral languages.

The criteria set by Schmalting (2012) though were primarily suggested for evaluating oral languages, the researcher tried to consider them for evaluating sign language dictionaries. Of course, the researcher has also used additional criteria such as sign illustration, sign entries, and regional labels to do the stated evaluation.

As mentioned in the previous review section of this study concerning the evaluating criteria of the dictionary, the researcher has made use of a model consisting of the following parameters as core criteria most of which were used by Schmalting (2012) to overview African Sign Language Dictionaries. These are authority, purpose (aim, reason), audience (target use groups), data collection, and selection of entries and language used.

The criteria suggested by the reviewers and evaluators of dictionaries have several features in common, however, the researcher has found the aforementioned criteria suitable for evaluating the EthSL dictionary. Therefore, the EthSL dictionary structure in general and its semantic structure in particular will be discussed.

#### **4.6.1. Authority (Authors, Compilers, Publishers)**

EthSL dictionary was compiled, edited, and published by the Ethiopian National Association of the Deaf (ENAD) with the involvement of consultants from Addis Ababa University. The dictionary is titled Ethiopian Sign Language Dictionary. The Finland Association for the Deaf (FAD) supported the compilation and publication of the project with finance and training of manpower. While commenting on dictionaries of some countries in Africa such as Zambia and Uganda, Schmaling (2012:248) comments that the publications and compilations of the dictionaries were done depending on the financial support gained from outside. In addition, he claimed that most dictionary compilations were not done based on findings of linguistics research. This is also true for the EthSL dictionary compilation.

#### **4.6.2. Purpose of EthSL Dictionary (Aims or Reasons)**

It is vital to be aware of why and for whom the EthSL dictionary is compiled or prepared. Schmaling (2012:248) suggested that the size of the dictionary and the way signs are organized in it depends on the target group and its reasons for using the dictionary. The EthSL dictionary was aimed to serve as a resource material mainly for the deaf people of Ethiopia. Schmaling (2012: 248) also states that many sign language dictionaries 'goal' is to legitimize the documentation and development of the language. Additionally, dictionary makers also aimed at establishing effective communication among societies, assisting beginners to learn and popularize their sign language. In this regard, in publishing the EthSL dictionary, ENAD seems to have achieved its goal even though it (the dictionary) might not fully satisfy its users due to the dynamic of modern communications.

#### **4.6.3. Target User Groups of EthSL Dictionary**

According to the dictionary-maker of EthSL, the EthSL dictionary is aimed at a wide audience, and it states that researchers should make use of the volume. It is suggested that dictionaries of sign languages contain information on the intended target user group. Some dictionaries have defined their target users. In this regard, EthSL dictionary makers defined intended target user groups as wide audiences and researchers.

#### **4.6.4. Data Collection and Selection of Sign Entries for EthSI Dictionary**

Sign language dictionaries needed to be informative on how and by whom the data were collected for the effectiveness of variation. Regarding data collection and selection of sign entries for the EthSL dictionary, the authors tried to provide the users with some information although it is not detailed in its approach. The authors mentioned that the sign entries included in the dictionary are widely used by the Ethiopian Deaf community. According to them, the signs are collected from two main sources,

from " □□□□□ " /HA METHEHAF/ (the first Ethiopian Sign Language Dictionary) and the data collected from Addis Ababa and regional towns. The collected signs were sorted out based on their communicative values. However, clear information is provided on how many sign entries were taken from the first dictionary and what mechanisms authors used to include these sign entries.

#### **4.6.5. Language used for EthSL Dictionary**

Many sign language dictionaries have written text for each sign entry and other detailed information. Schmalting (2012:251) stated many African sign language dictionaries are English-based and African language texts. EthSL dictionary consists of introductory text in Amharic and English while the gloss for sign entries and the index are presented in Amharic together with their English translation.

#### **4.6.6. Structure and Content of EthSL**

The format and size of the EthSL dictionary, its mega structure, macrostructure (the order of signs), and microstructure (how each sign entry is organized) will be discussed following this;

##### **4.6.6.1. Format and Size of EThSL Dictionary**

EthSL dictionary is arranged in a format of A4 with number pages of IV, 464. It holds 3-7 sign illustrations per page. The number of pages depends largely on the arrangement of the signs on each page of the dictionary; it presents a sign with one to three photographs depending on its movement.

The number of entries in different dictionaries varies accordingly. EthSL dictionary comprises 1032 sign entries. It is quite an average size when it is compared with other African signlanguage dictionary entries such as Kenyan Sign Language Dictionary(KSL) and Ugandan Sign Language Dictionary (USL).

##### **4.6.6.2. Mega structure of EthSL Dictionary**

The megastructure of the EthSL dictionary is part of a reference work that includes an introduction, user guide, abbreviation, indices, bibliographies, and appendices which are also called all front and back matter. EthSL dictionary includes an introduction that mainly explains sign language structure and the deaf community in Ethiopia. It also explains the way data collection was made, the place from where signs were collected, and who was involved in the team. EthSL dictionary also contains a short user guide that mainly consists of arrows to indicate the sign structure.

It has also explanations on how to use signs, and it contains indices in Amharic alphabetical order that is translated into English. The megastructure of the EthSL dictionary arrangement is shown as follows:

- Table of content
- Acknowledgments
- Prefaces
- Message from Federal democratic republic of Ethiopia President
- Foreword
- EthSL
- Introduction
- How to use the dictionary
- Source of signs
- The noun ending sign/marker
- The photographing sign pictures
- How can signs be understand?
- Arrows
- Manual alphabet of EthSL and ASL
- Number
- Dictionary preparation team
- Vocabulary part
- Index

#### **4.6.6.3. Macrostructure of EthSL**

Regarding the macrostructure of the EthSL dictionary, its arrangement of sign entries is reviewed. The macrostructure sign entries are thematically arranged, and they contain twenty-four thematic fields. Thus, the twenty-four thematic fields are ordered as follows:

- Body parts and their functions
- Business, finance, occupation and organizations
- Clothing and textiles
- Colors
- Conjunction and Interrogative
- Descriptive signs

- Food, drink and related items
- Education-related and educational items
- Environment, nature and direction
- Number, quality and quantity
- Flora and fauna
- Furniture and fixture
- General signs
- Life-related and health
- Peace and security
- People and relationship
- Personality, intellect and emotion
- Politics and government
- Religion and worship
- Sound and vision
- Sport and recreation
- Time and season
- Transport and communication
- World, continents, countries and cities

The rationale for the thematic grouping mentioned above and their order were not explained in the dictionary. Schmalzing (2012:260) argues that thematically grouping and ordering sign entries are complex, and it does not involve sign linguistics features. In the EthSL dictionary, the signs that do not fit into any of the groups are grouped in the category of 'general signs'; they are mostly signs that are translated as verbs in the spoken Amharic language.

Semantic relations are much more relevant for the microstructure of the dictionary where a single entry can specify multiple meanings of a word (homonymy). The different senses of each of these meanings (polysemy), as well as morphologically related forms would be grouped into the same entry. However, it is not necessary to consider lexical relations as if they are irrelevant to macrostructure. Macro-structurally, synonyms in the EthSL dictionary are grouped as a single entry. For example, Figure 79 shows two different signs for "mother" in a single entry. However, in an English dictionary, for example, this would never happen; the words "weary" and "tired" do not appear next to each other even though they mean the same thing. This is an effect of macrostructure (alphabetical order) that

influences the associations that are possible in a single dictionary entry. This situation is expressed as cross-referencing among signs. Relatedly, organizing the EthSL dictionary in terms of thematic groups implies the appearance of different homonyms in the dictionary in various ways. For example, in EthSL the signs for BROWN and COFFEE are (almost) homonyms, but in a thematically organized dictionary, BROWN would be listed under "colors", whereas COFFEE would be listed under "food and drink." It would, thus, be impossible to include the two in a single entry. On the Other hand, signs for SLAVE and ONION are homonyms in EthSL, but thematically they are grouped under different thematic categories.

#### 4.6.6.4. Microstructure of EthSL Dictionary

Most sign language dictionaries consist of sign illustrations and their translations. However, some dictionaries contain additional explanations of the illustrations. In the EthSL dictionary signs are illustrated with photographs with arrows indicating the movement of the handshape. In the dictionary, to show the movement of the sign, two or three photographs /sign illustrations are used (see Figure 65 below).

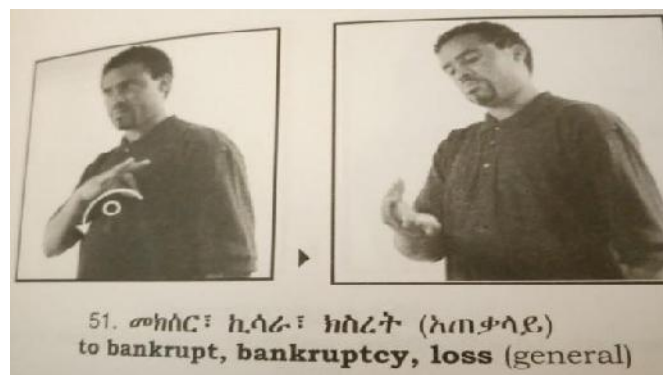


Figure 65: Sign with movement structure, two photographs for a single sign

Even though Ethiopia is a multilingual country, the signs in the EthSL dictionary are glossed only in Amharic (the working language of the nation) with their English translations.

EthSL dictionary offers little information on how to perform signs. And it only contains some information on variations in sign performances.

#### 4.6.6.5. Regional Labels /Variations

Regarding variations, the EthSL dictionary does not give sufficient explanations on where the signs are from and who uses them. However, the EthSL dictionary presents quite a few variants of signs. No

information shows how compilers decided either to select or remove variants. The extent of considerations given to the situations of rural and urban deaf communities during the preparation of the dictionary is not briefly explained. Therefore, local signs and related cultural vocabularies might be missed from the dictionary.

#### **4.7. Semantic Relations and Lexical Entry of EthSL Dictionary**

One of the objectives of this study was to review how the semantic lexical relations presented above were tackled in the compilation of the EthSL dictionary. Following this, each case of lexical semantic relations will briefly be discussed depending on the presentation of semantic relations in the EthSL dictionary.

##### **4.7.1. The Case of Polysemy in EthSL Dictionary**

Lexicography studies the various lexical units, and it particularly focuses on a word by considering it a basic unit. So, the researcher has made investigations on entire signs/lexical items listed in the EthSL dictionary and identified some polysemous signs based on the criteria and conceptual definitions discussed in the preceding sections. She aimed to discuss how the polysemous EthSL signs were tackled in the dictionary by the dictionaries published earlier.

No information or explanation was forwarded by the compilers of the dictionary regarding polysemous signs. This, in turn, has complicated the identification of polysemous signs in the EthSL dictionary. However, to overcome the challenges of identifying polysemous EthSL signs, the researcher found it important to apply some criteria and conceptual definitions of polysemy used in oral languages.

The polysemous signs used in the study were identified from a total of 1320 sign entries. In the dictionary, the selected polysemous signs were categorized in different thematic fields.

Most polysemous signs in the EthSL dictionary were identified based on the traditional definition of polysemy in sign languages. In doing so, due focuses were given to examples and comments that Johnson and Schembri (2007) and Vali (2005) forwarded while they dealt with Australian and American sign languages respectively.

In the EthSL dictionary, there is no information that the authors offered regarding the polysemous signs. Practically, lexicographers pay special attention to uncovering the relation within the accepted concepts in the phase of semantic modeling (Cabre, C., 1994). The researcher thinks that if there is information on polysemy that is forwarded by lexicographers to show the semantic relatedness of

EthSL signs in the dictionary, it can enhance the understanding of the target language users.

EthSL signs which could be regarded as polysemous signs are indicated in different thematic groups in the dictionary. They stretch from a single sign entry to multiple glosses in Amharic and English. For example, as shown in Figures 66 and 67 below, one sign entry is provided with multiple glosses in Amharic and English.



Figure 66: Glosses – pillow, mattress, sponge

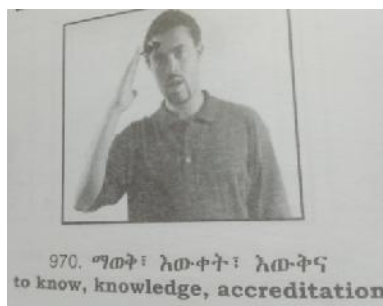


Figure 67: Glosses- to know, knowledge, accreditation

The polysemous signs in Figure 67 above present a single sign entry with multiple glosses. Etymologically, these signs could probably be described as polysemous signs when there is one sign entry with multiple glosses. However, Naughton (2001) opposes organizing dictionary entries as in the above case single sign entries with multiple glosses. She states that glossed words may be signed differently from the intended original meaning, and these words may be different in meaning.

To check the perfectness of the polysemous signs gathered from the EthSL dictionary, the researcher asked signers to sign each word by mentioning the 'gloss' without showing the single sign entry given in the dictionary. Consequently, she observed some differences for signs indicated with multiple gloss or word bundles (see Figure 68 below).



Pillow

mattress

sponge

Figure 68: Sign illustration for pillow, mattress and sponge

For most polysemous signs in the EthSL dictionary, the semantic field of nouns and verbs is not separated. And there is no mechanism indicated in the dictionary to distinguish nouns from verbs through sign parameters. For most single sign entry, gloss/translation is provided in both noun and verb forms. This may mislead target language users of the EthSL in their attempt to distinguish the nouns from the verbs.

Naughton (2001) states that reduplication of the initial noun sign is derived to form a verb. According to her, the reduplication of the sign is polysemous in the morphological process of deriving nouns from verbs in ASL. In this regard, no well-developed literature on EthSL helps to distinguish verbs from nouns. Consequently, it is quite challenging to forward explanations or examples concerning these lexical fields. However, authors in the dictionary showed the role of reduplication which derives singular signs to plural for some lexicon. However, the dictionary does not indicate the signs that acquire reduplication to form the plural. For example, the sign for the noun 'cloth' and the sign for the verb 'to wear' are not distinguished by any information or explanation. In addition, the sign for the noun 'whistle' and the sign for the verb 'to whistle' are not distinguished (see Figure 69 below).

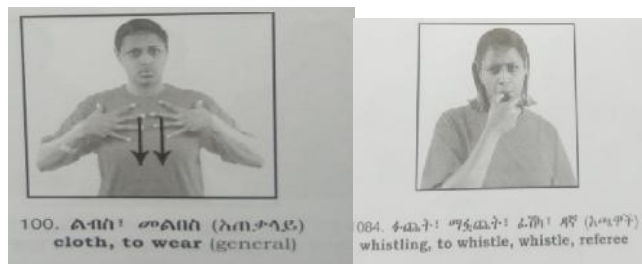


Figure 69: Sign for the noun 'cloth' and sign for the verb 'to wear'

About noun and verb derivation, Kaehb (2010:15) considers the noun-verb converted pairs as 'typical semantic relations'. For example, fish (N) vs. fish (V) in English denote the acquisition or addition of the object. To him, nouns can be converted to form verbs. For instance, to peel (V) vs. peel (N) in

English denotes an object or the result of the action. In ASL through morphological reduplication polysemious semantic relations occur; when a noun converts to a verb and vice versa, it forms a typical semantic relation (Kaehb, 2010).

About the EthSL dictionary, a single sign entry was glossed with both nouns and verbs in Amharic and English languages. In the EthSL dictionary, it seems evident that a single sign entry is explicitly provided for the noun-verb pairs. There is no any explanation regarding from which signs of the nouns the verbs are derived and vice versa.

Troelsgard and Kristoffersen (2007) discussed polysemious signs while processing the Danish sign language dictionary. To them, semantic analysis is important to decide the structure of the sign entry. Furthermore, they note that strongly polysemous signs are often formally described as two or more homophone signs. To them, polysemous signs have two separate entries in the dictionary because of the semantic relations. However, in the case of the EthSL dictionary, polysemous signs are rare. As mentioned above, looking in the EthSL dictionary one could face challenges to distinguish polysemy from homonym. In the EthSL dictionary, there are some examples of polysemous signs, but they are presented in a single-entry format. For example, the entries for the signs 'sentence' and 'folk tale' are cases in point (see Figure 70 below).

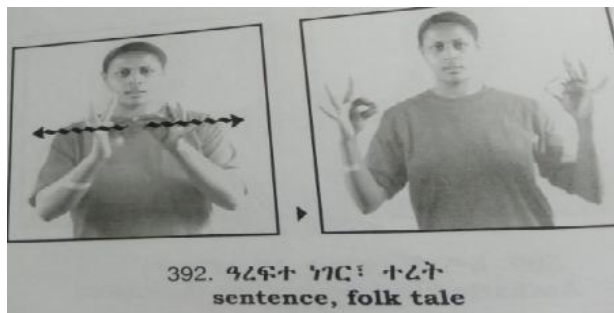


Figure 70: Sign illustrations for ‘sentence’ and ‘folk tale’

If the features of semantic relations and the criterion of distinguishing polysemy from homonymy had been given due attention during the preparation of the EthSL dictionary, the signs for 'sentence' and 'folk tale' would have been presented in different entries.

#### 4.7.2. One Amharic Word but Multiple Signs in EthSL

As shown in the review of literature, the existence of one word in counterpart spoken language might have two or more sign meanings. This mainly occurs due to differences in contexts. EthSL dictionary involves some lexical entry signs that are expressed in two or more signs for one Amharic word gloss.

The dictionary forwards the context for each sign. Some examples of one Amharic word with multiple signs are shown in Figure 71 below.

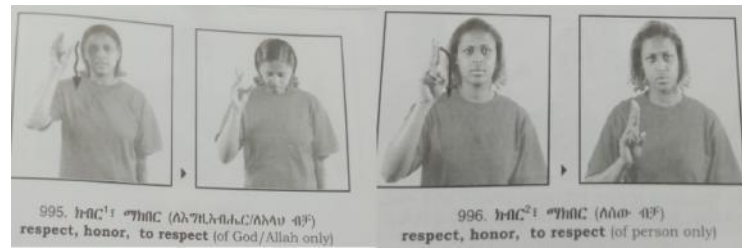


Figure 71: Sign illustrations for respect-1, respect-2

However, this did not include other Amharic words that are expressed in the same way, and it misleads the target language users. For example, the word "□□" or 'zer' is translated as 'race' and 'seed'. In Amharic, this word ("□□") is pronounced in the same way in the case of saying 'race' and 'seed'. Thus, the two meanings are differentiated depending on the context. However, in the dictionary, there is no explanation concerning the possible contexts that the users need to consider when they practice the two meanings.

To sum up, polysemous signs are not properly treated in the EthSL dictionary. Furthermore, there is no information given on how polysemous signs have been considered for each sign entry. Single sign entries with multiple Amharic glosses are encountered in the EthSL dictionary. It is not clear whether these signs are translated into Amharic or Amharic word lists are rather provided for each sign. Furthermore, no clear-cut explanation is given concerning the distinguishing parameter of noun and verb signs in EthSL. Several sign entries treat both verbs and nouns as they are glossed in Amharic.

The conversion of nouns to verbs and vice versa that denotes different meanings is considered as a typical case of semantic relation in English while deriving nouns from verbs through sign movement repetition (reduplication) in ASL is considered as the case of polysemic. In the case of EthSL, it seems movement change (more repetition for verb signs) sometimes appears while reduction for noun signs is observed. So, verb signs in EthSL are probably derived from the noun through the process of reduplication/ movement change on the sign. On the other hand, signers extend noun and verb signs by mouthing of counterpart spoken language of the EthSL. EthSL signers were seen while watching the mouthing pattern of sign form to distinguish nouns from verbs. Even if no criteria were set to distinguish a noun from a verb and the dictionary makers did not forward any clue to do so, based on the lessons she has got from other dictionaries the researcher considered relations between noun and verb signs in EthSL dictionary as polysemous signs.

### 4.7.3. The Case of Antonymy in EthSL Dictionary

In the preceding analysis and presentation part, attempts have been made to show how antonyms are expressed in EthSL. The types of antonyms collected from informants and the EthSL dictionary were also presented. In the topic under discussion, the researcher attempts to forward further analysis on antonymous signs in the EthSL dictionary, and she examines their implications for dictionary making. Around 35 antonymic lexical signs were identified from the EthSL dictionary. These antonymic EthSL lexical signs occur in different ways and fall into different categories in line with Yule's (1996) description. As shown in the data analysis of the dictionary, some antonymic EthSL signs are formed by changing the movement of the sign to the opposite direction. The signs for 'borrow' and 'lend' can be taken as examples of this situation.



Figure 72: Sign illustration for 'borrow' vs sign 'lend'

The other way of forming antonymic signs is by changing the location parameter of the initial sign to the opposite. This fact can be exhibited through signs such as male vs female and father vs mother (see the Figure in Table 3 above).

Some antonymic EthSL signs that were collected from the dictionary contain signs that expressed an opposite relation between them as it happens between antonymic words in spoken language. Some examples of opposite relations between words and sign expressions in EthSL are shown below:



Figure 73: Sign illustrations for 'easy' vs 'hard'

The antonymic signs in EthSL fall into the different categories (gradable, nondegradable converse, and directional) which, then, fit Yule's (1996) assumptions.

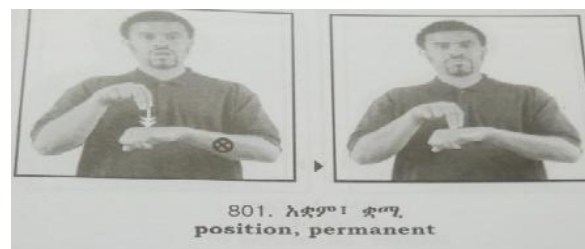
The collected antonymic EthSL sign entries are included in different thematic categories and semantic fields. As a multilingual dictionary, the EthSL dictionary does not express opposites of each entry; it rather translates each sign to its Amharic and English equivalent meaning. So, the dictionary does not give its users access to the opposites of each entry nor does it provide them (the users) with information on how opposites in sign language could be formed.

#### 4.7.4. The Case of Homonymy in EthSL Dictionary

Homonymic signs are thought to be identical signs in phonological parameters, and they have unrelated meanings. As one can observe, attempts have been made to describe homonymy signs in EthSL in the preceding sections of this dissertation. In this section, due attention will be given to examining the presentation of homonymic EthSL signs in the dictionary and the role they (homonymic signs) play.

The conceptual definition of homonymy has been taken into consideration to identify homonymy signs from the EthSL dictionary. Consequently, 20 homonymy signs were selected. The selected homonymy signs are considered lexical signs with the same form but are different in meanings. In other words, having different meanings, these signs are identical in signing parameters. As stated above, the authors of the EthSL dictionary did not provide users with information about these homonymic signs. This, in turn, makes it difficult to distinguish them from polysemous signs in the dictionary.

In spoken language dictionaries, homonym words are given separate entries, but in the EthSL dictionary, homonymic signs are mainly given in a single entry. Figure 74 below shows how homonyms are represented in the EthSL dictionary.



position/permanent

Figure 74: Single sign with different meanings

As the above illustration indicates, in the EthSL dictionary a single sign is presented with its different meanings and equivalent Amharic and English translations. If each meaning was given a single sign entry, it would appear like the pictures shown in Figure 75 below.



Figure 75: Sign illustrations for ‘Permanent’ (in single entry)



Figure 76: Sign illustration for ‘position ’ (in single entry)

It is not clear why the authors treated homonymy signs in a single entry when the meaning is different. For example, the signs for 'sentence' and 'folk-tale' are signed in the same form phonologically, but they are different in meaning. According to Lyons (1968), in spoken languages, homonyms come as a result of divergent sense development of polysemous words and borrowing from different languages. Here, it is possible to make an educated guess that the aforementioned two reasons that Lyons (1968) indicates about spoken languages could also be the reasons for the occurrence of Homonyms in EthSL.

Homonyms play a role in identifying the meaning of identical forms of words/signs. Most sign language dictionaries are arranged in the form of thematic groups where each entry semantically belongs to the group. Likewise, EthSL dictionary entries are arranged in terms of thematic groups. The occurrence of homonymic (signs with identical forms but different meanings) is restricted in giving entries because the homonymic signs belong to different thematic groups. For example, since homonymic signs for 'drum', 'eardrum', 'whistle', 'referee' 'tube', and 'cave' are thematically different, they should be treated in different entries.

#### 4.7.5. The Case of Synonymy in EthSL Dictionary

A synonym is one part of lexical semantic relations that refers to more than one word having the same or closely related meaning. In sign language too, synonymy applies to more than one sign that has the same meaning. In the preceding sections, it was tried to discuss the different cases of synonyms, their classifications, and sources. In what follows, due focus was given to discussing the use of these synonyms in the EthSL dictionary.

Using the criteria applied for collecting synonyms, the researcher selected 15 synonymic signs from the EthSL dictionary. The authors did not give sufficient information regarding synonymy lexical signs in the EthSL dictionary. The authors merely claim that the users of the dictionary can use one of the synonymic signs from the given alternatives. In other words, the signers can substitute one sign for another synonymic sign without a slight change in the meaning (see figures 77&78 below)



Figure 77: Synonymous sign illustration for 'father'



Figure 78: Synonymous sign illustration for 'mother'

As shown above, most sign entries on synonymic EthSL signs, are taken from "family and relationship" thematic groups. It is not clear why these synonymic signs are quite common in this thematic group while they are rare in other thematic groups. Lyons (1968) notes that synonyms can be discriminated by analyzing their different semantic features and usages. The reason for the rare occurrence of synonyms in the EthSL dictionary could probably be due to the lack of criteria or mechanisms that help to identify synonymic lexical units (signs).

Synonyms in the EthSL dictionary can be categorized as total synonymy or dialectal synonymy. Hence, they can be substituted for each other, or they can be used alternatively. That is the reason why the authors firmly remind users to apply the synonymic signs alternatively. On the other hand, these

synonymic EthSL signs which were collected from the dictionary can also be considered as dialectal synonyms. This is because the synonymic signs belong to the different variants of EthSL.

According to Ullman (1962), a lexicographer has to use labels to indicate the variations in the language whether temporal or regional, or of usage and style. As the findings of this study show, most synonymic signs are regarded as spatial labels (regional and local ) which denote the geographical distribution of lexical units (lexical signs) or its meaning.

Ullman (1962) further points out that labels with spatial variables can be regarded as international, national, and individual. Accordingly, certain synonymic signs collected from the EthSL dictionary were borrowed from ASL due to its historical contact with EthSL. The researcher put maximum effort into finding the synonymic EthSL signs in the online dictionary of ASL. As a result, she learned that some synonymic signs were common to EthSL and ASL.

It seems that EthSL dictionary compilers did not consider well the importance of cross-referencing. However, evidence shows that it (cross-referencing) is used as an indicator that explicitly and/or implicitly guides the users between different places in the dictionary or from places in the dictionary to places outside the dictionary to show the way to the information sought, or to supplement or deepen the way to the information already found (Svensen, 2009). It is an indicator (symbol) that effectively guides the dictionary user to find information in a given dictionary entry. Cross-references also help users to see relationships between signs. And it also enables us to examine sequential relations in a given dictionary.

To sum up, the EthSL dictionary was briefly investigated in light of the general structural information and lexical-semantic relations between sign entries provided in the dictionary. Attempts have also been made to examine its structure and sign entries. As mentioned elsewhere in this study, the main focus of the investigation was to find out how semantic relations are tackled in the EthSL dictionary.

## **CHAPTER FIVE**

### **CONCLUSIONS AND RECOMMENDATIONS**

#### **Introduction**

The chapter mainly deals with the major conclusions drawn from the major issues discussed throughout the study.

#### **5.1. Conclusions**

##### **Semantics**

Literature on sign language neglected semantics in favor of linguistic research in the traditional domains of phonology, morphology, and syntax. The contribution of semantics especially lexical semantics about dictionary-making has not been emphasized. In modern linguistics, language users need to have knowledge of meanings and understand the methods that cause the occurrence of changes in meanings. The findings of this study are believed to increase our understanding of lexical semantic relations depicted through EthSL. To this effect, the study has attempted to answer the following main research questions: a) How are lexical semantic relations exhibited in EthSL? b) How do the existing sign language dictionaries make use of the patterns of semantic relationships and their implications for dictionary making?

##### **Methods**

Recorded video data yield the researcher a chance to gather and analyze signs in motion and context. The recorded videos keep signing form for the right path of analysis. Signers of the recorded videos were also available for further feedback and responses to questions related to semantic relations in EthSL.

Interview elicitations of the deaf informants enabled the researcher to search semantically related lexical signs in EthSL and record their illustrated examples. The researcher also used them (interview elicitations) to examine the semantic requirements from EthSL users' perspective.

Conducting observations while deaf signers engaged in free communication, the researcher collected some data that was used to analyze semantically related lexical signs in EthSL.

The data collected from the EthSL dictionary along with some contextual and variant signs

information paved the way for conducting further investigations on semantically related lexical signs. In addition to other purposes, the sign entries in the dictionary are used as teaching material in sign language classes. As the current dictionary is the latest publication and larger compared to previous EthSL dictionaries, it gave the researcher access to deal with more signs and related information with them (the signs).

To sum up, different patterns emerged in the analysis of semantically related lexical signs in EthSL. The data collected from the aforementioned four sources enabled the researcher to conduct a meaningful analysis of the paradigmatic semantic relations of the lexicon in EthSL. The summarized findings obtained from this study are thought to be significantly important to understand EthSL and make use of the knowledge for dictionary making and language teaching.

### **Lexical Relations**

Lexical relations are among the most important semantic relations in exploring the meaning of words or signs in language. The semantic/lexical relations examined in this study are attributed to the relationship between signs, and they also refer to sense relations. This becomes more meaningful when one examines them about their contribution to making a dictionary in sign language. Dictionaries are mainly categorized into different types depending on the various semantic aspects and their relational value in the lexical stock of the language. The types of semantic/lexical relations described and discussed in this study were polysemy, homonymy, synonymy, antonymy, and metonymy.

### **Polysemy**

In the study, attempts have been made to focus on the definition that considers polysemy as a phenomenon in which a lexical item has a range of systematically related meanings that are produced and motivated by different processes in EthSL. Lyon's, (1977) systematic criteria and Klepousnioto's (2002) motivational factors that form polysemy are applied to deal with signs with multiple senses of the same phonological patterns (polysemy) in spoken languages. However, in sign language linguistics, there are no established criteria or systematic mechanisms that help one to determine polysemous signs or signs with multiple related senses. This complicates the issue of determining polysemy signs in sign language for language researchers as well as lexicographers.

In this study, it was tried to consider an inclusive system so that basic definitions of polysemy forward by Lyons, (1977) and Palmer (1976) about polysemous signs of Auslan, JSL and ASL. This paved the way for the researcher to look into mechanisms that helped her to identify and analyze the polysemous signs in EthSL.

The study revealed that there are clear cases of the appearance of polysemy in EthSL. The sameness of signs did not happen by chance or arbitrarily, but it occurred due to the extension of meaning. The polysemous sign illustrations with their descriptions are shown in the sections where the data were analyzed. Signs in EthSL with multiple meanings and sameness in form are related and associated with certain semantic patterns. For example, one of the semantic patterns that depict noun vs activity is shown through the sign for 'story'. When it is signed to refer to its noun form, the term story stands for an account of imaginary or real people and events told for entertainment (or an account of past events in someone's life or the development of something). However, the same sign for a story can be extended to refer to the process of telling a story which, in turn, implies the action/activity.

Another pattern is the case of Noun vs Verb dichotomy or the relation between function vs object (grammatical). For example, the sign for 'airplane' and the sign for 'to fly' could be taken as cases in point where the object, i.e. the airplane and the action of flying are expressed by polysemous signs. The same relationship has also been observed in the pattern of signs denoting animals and their meat as in 'fish' and 'chicken'. Still, the other pattern relates to the name of a language, and the speakers (the people) or ethnic group could also be shown by polysemous signs. The signs for 'orange' citrus fruit, plant, and color type are used in this study to reveal the occurrences of polysemous signs through interpreting semantic senses.

The study has also discussed different motivational/ extensional processes to show the formations of polysemous signs in EthSL. These processes include metonymically motivated EthSL polysemous signs, for example, the sign for 'car' vs the sign for 'to drive'. Furthermore, metaphorically motivated EthSL polysemous signs, for example, EthSL signs for fish and 'fish food' as well as polysemous EthSL signs that were formed due to the influences of ASL and the corresponding spoken language, Amharic, have carefully been addressed in this study. In the study, the due focus has also been given to polysemous signs for 'pot', 'kettle', and 'jog'. These iconically motivated polysemous signs in EthSL are formed as a result of resemblances of entities. As shown, these motivational processes become sources of polysemous signs in EthSL. Thus, if we intend to identify the semantics of lexical items, we

have to check for the eventuality of any given word having multiple interpretations.

The EthSL dictionary has also been analyzed to find out polysemous EthSL lexical signs. The majority of the polysemous EthSL signs identified in this study are examined by taking into consideration the illustrated examples of polysemous signs in other sign languages. Although these polysemous signs have multiple related meanings, they are presented in a single entry with different thematic categories.

The researcher finds it challenging to distinguish polysemous signs from homonym signs in EthSL. Either they are not differentiated in their lexical entry in the EthSL dictionary or there is no clear clue that reveals their semantic relationships. Lyons (1977: 550) notes that using etymology and close relatedness /unrelated of lexical units as identifying criteria may simplify the complexities in identifying polysemy from homonymy. Lexicographers/ dictionary compilers with little knowledge of the etymology of the lexical items in their language are thought to face problems in entering polysemous and homonymous lexical items in their dictionaries due to a lack of knowledge of the extent to which the lexical items are related.

In addition to polysemous signs taken from the EthSL dictionary based on the existing definitions and illustrated examples in other sign languages, in this study, due focus has also been given to etymological investigation that deals with morphological perspectives in sign language as shown by Naughton (2001) about ASL.

Polysemy is one subject matter that needs to be equally utilized by linguists and lexicographers to understand the nature and structure of a language to compile a dictionary and conduct lexicographical analysis. Polysemy plays a role that changes the general structure of words/signs including dictionary entries. Arranging semantically related meanings including those which are polysemous, contributes to handling and governing multiply related signs in dictionary making.

While dealing with polysemous words/signs, dictionary compilers/lexicographers have to study and analyze the interrelation and interdependence of their different meanings in the semantic structure of words/signs. Therefore, sign language dictionary compilers in general, and EthSL dictionary compilers, in particular, should take into account the principled criteria in identifying and describing polysemous signs. This, in turn, brings a huge advantage for those who seek either to understand language or compile an affordable dictionary.

## **Synonymy**

Synonymy is one of the lexical-semantic relations that has been studied in this research. Attempts have been made to define from different points of view. Serban (1978:23) has given a general definition of synonymy as "different words in form but close or identical in meaning." Contrary to sign languages, in spoken languages, synonymy has extensively been studied. One might find only a few definitions and illustrations about synonymy in sign language. Schembri and Johnson (2007) state that synonyms are lexical items /signs that have the same or similar meanings, but are different phonological forms. For Konard (2013) also synonymous signs do have the same meaning but are different in form.

In her attempt to identify and describe synonymous sign patterns in EthSL, the researcher has used the criteria that Apresjan (1957: 87) and Lyons (1975: 61) have proposed in their definitions of synonymy. However, finding true synonymy and its relation to distributional dialects was one of the challenges that she faced during this study.

The collected data for this study indicated the occurrences of synonymous signs in EthSL. Some synonymous EthSL signs were collected from video recordings of informants. During the interactive interview, the informants were requested to form some illustrations of synonymous signs and use them in context. They were also asked to illustrate some synonymous signs that the researcher obtained while she conducted observations. Finally, some synonymous signs were taken from dictionary entries, and they were analyzed in line with the applied criteria proposed by the aforementioned two scholars. These synonymous signs obtained from the data sources are signs /lexical items that are phonologically different in form, but identical in meaning, as in the case of CHANGE-1 and CHANGE-2. The Signs for CHANGE-1 and CHANGE-2 are phonologically different (or their signing parameters are different), but they are identical in meaning.

Lyons (1995) classified synonyms into three types; partial synonymy, near synonymy, and sense synonymy. Palmer (1976) also mentioned five ways in which synonymous words can be seen (see in the review of literature section). Palmer (1976) and Breal (cited in Neirlich 2003) have also described

some classifications of synonyms as total, dialectical, ideographic, contextual, and stylistic. Both types and classifications of synonyms are applied inclusively to describe EthSL synonymous signs. The finding of this study revealed that synonymous signs in EthSL can be classified as total synonymy (e.g. GO-1, GO-2, GO-3), dialectal synonymy (e.g. SPORT-1 and SPORT-2), and stylistic synonymy (e.g. HUNGRY-1 and HUNGRY-2). According to the findings of this study, foreign borrowing (semantic correlation), an adaptation of dialect and variants, and different styles of signing are the main sources of synonymous signs in EthSL.

Synonymous signs in the EthSL dictionary have also been analyzed; the study also attempts to elaborate on how these synonymous signs became dictionary entries in the EthSL dictionary.

The study found that synonymous sign entries were done mainly depending on family and relationship thematic categories. Nevertheless, the dictionary makers did not forward any information regarding synonymous signs in the dictionary. It is not clear whether these signs are adapted dialect/ sign variants or synonyms. Dictionary compilers suggested to the readers to use alternative signs that are connected by "OR" between each sign in a single entry. For example, see the synonymy sign entry for 'mother' in figure 79 below.

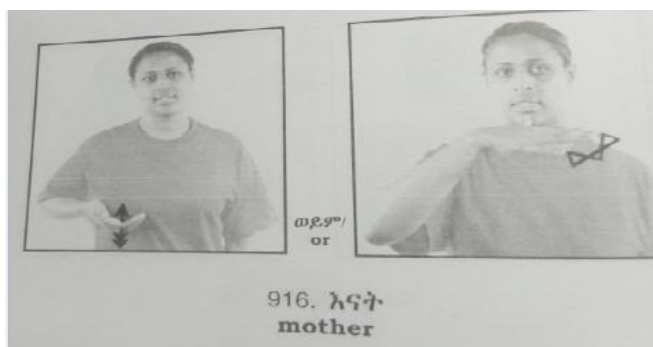


Figure 79 sign illustration for Mother

Sociolinguistic studies in EthSL have proved the occurrence of variations in EthSL (Kidane, 2011; Eyasu 2017; Meaza, 2012). However, the EthSL dictionary contains around 15 regional and social variant sign entries which are also part of the synonymy. This indicates the omission of synonymous signs from the dictionary. Semantic and syntactic restrictions as well as variation in the register of sense-related items could have been incorporated into the dictionary entry.

Cruse (2004) noted the importance of synonymy for a standard dictionary. The lexicographers or

dictionary compilers should keep in mind different registers, stylistic variations, dialects, formal vs informal signs, semantically correlated signs, labels (temporal and spatial labels), and cross-referencing signs while they deal with synonyms in the process of making a dictionary. There are possible lexical unit/ sign entry meaning resemblance with different sign forms that normally appear. This should be utilized and analyzed through identification mechanisms/criteria and conceptual definitions. Lyons (1995) suggests that dictionary compilers have to observe the distributional patterns of synonymy and check the principle of synonymy.

### **Antonymy**

Antonymy is the relationship between words/signs which are opposite in meaning. Antonymy, oppositeness of meaning, has long been regarded as one of the most crucial semantic relations with its inevitable reflection in human language. Lyons (1968) notes that human beings have a general tendency to polarize experience and judgment to think in the opposite. So antonymy is one of the semantic relations that are very useful to be studied in EthSL. The well-established studies on antonyms in spoken languages have been conducted. However, in sign languages, little is known about antonyms. Schembri and Johnston (2007) in Auslan tried to define antonymy in sign language. To identify, analyze, and describe antonym signs in EthSL in this study, the researcher considered Lyons' (1977) and Egan's (1968) traditional definitions of antonymy. In addition, she has given due attention to factors that Lyons (1977) implemented to determine antonyms; the two criteria that Cruse (1986) suggested to identify antonym signs were also used in this study.

The sources of data for this study showed some ways in which antonym signs occur and are expressed in EthSL. It has been tried to identify antonymous signs from the recorded video data with some interactions of informants on the opposition. The informants were also requested to provide some illustrated examples of antonymy in EthSL during metalinguistic interactive interviews. The data that the researcher collected through observations and her interactions with the deaf signers were used to analyze and describe antonymy signs in EthSL. The data showed the following ways of forming antonyms in EthSL:

- A, By changing the movement parameter of the sign to the opposite direction; for example, the sign for 'lend' vs 'borrow'
- B, Through changing the palm orientation of the opposing sign; for example, the sign for 'good' vs 'bad'.

C, Through opposite relation lexical sign; for example, the sign for 'alive' vs 'death'.

D, Morphological process of forming antonyms; for example, the sign for 'know' vs 'not-know'.

E, By putting the sign at the opposite location; for example, the sign for 'father' vs 'mother'

The antonymy signs in EthSL can be categorized as reverse opposition, converse opposition, antipodal opposition, kinship opposition, gradable opposition, non-gradable opposition, and directional opposition.

EthSL dictionary was referred to find out antonymous signs in the dictionary entries. The study also analyzed and described how these antonymous EthSL signs were used in the EthSL dictionary.

The signs with opposite meanings are included in different entries. The dictionary makers did not provide any information in the entries of antonymy signs. This might show the absence of principled rules to determine and describe antonymy signs. No sign entry is provided with explanations of what the opposite sign of a given entry could be. The most identified pair of antonymic lexical signs are those showing equality, quantity, size, and kinship signs.

It is noted that theoretical semantic insights too, go hand in hand with lexicographic practice. So semantic description of sign-meaning relations needs to be explained by lexicographer/ dictionary authors. Antonymy is one important clue to be investigated and explored by dictionary authors to identify opposite meanings of a given sign word.

Cruse (1986) points out that antonymy is the most robust among the lexico-semantic relations. This shows the pervasiveness of antonymy in language and its existence in native users from all walks of life. Antonymy also plays a remarkable role in language teaching and learning processes for every layman. Jackson (1988) notes that antonymy is one of the frequent occurrences in the dictionary within various semantic relations.

Therefore, lexicographers/dictionary authors should treat the oppositeness of lexical sign entries in the dictionary and provide systematic information on such important semantic relations.

### **Homonymy**

Homonymy is another semantic relation that this study has dealt with. Homonymy is termed by many as a form (written and spoken) having one or more unrelated meanings. In sign language due to the commonly accepted writing system, only signing/ citation form is used. Most studies done on homonymy discuss it in the context of distinguishing it from polysemy. Yule (1976) states that

homonyms are words that have accidentally come to have the same form. There is a lack of literature on homonymy in sign language studies; of course, Schembri and Johnston (2007), have tried their best to give an explanation and some illustrations on the subject.

Palmer's (1982) definition of homonymy and Lyon's (1977) criteria to distinguish homonymy from polysemy signs in Ethiopian sign language were used to analyze and describe homonymy signs. Studies indicated that there is no clear-cut difference between polysemy and homonymy; there are signs in EthSL that might be shared in both.

The data sources for this study indicated the occurrences of homonymy signs that have the same form (identically signed) but are unrelated in meaning. The data for this type of semantic lexical relations were mainly collected from meta-linguistic interviews, observations, and EthSL dictionary analysis. The analysis and description of these data revealed that homonymy signs in EthSL can be treated in some ways. An identical signing form but unrelated meaning signs in EthSL are displayed through iconic similarity between entities, and grammatical derivation during conversation as a result of borrowing and sometimes mixing and mistakenly interchanging signs. These lexical relations were effectively used among signers.

EthSL dictionary has also been investigated to find homonymous signs in its entries. Some studies such as (Meir 2010) noted that homonymy and polysemy can be distinguished through dictionary entries (etymology). However, this does not work in the case of the EthSL dictionary. For example, in the EthSL dictionary, homonymy signs are provided in one entry (one sign with different or unrelated meanings explained in Amharic/English equivalents).

Polysemy signs are also provided in one entry for related meanings. This makes the semantic relation of signs so complex and misleading. EthSL dictionary contains homonymy signs in different entries and thematic categories. Nevertheless, dictionary authors did not provide information on homonymy signs.

Homonymy is one semantic/lexical relation that needs to be treated accordingly by lexicographers in arranging entries in the dictionary. Knowing homonymy is essential in distinguishing it from polysemy. It means that the lexicographers/ dictionary authors should be aware of the complications in the identification and ultimate distinction between polysemy and homonymy signs. Furthermore, lexicographers even need to accept the importance of having sufficient knowledge of the etymology of

a lexical item and its semantic relations.

### **Metonymy**

The term metonymy is used in semantics, especially in lexical semantics. Lyons (1990) defines metonymy as one entity that is associated in some way with the other and allows us to conceptualize one thing using its relationship to something else. Simply, metonymy is the semantic relationship that exists between words or a word and expression. Unlike the above-mentioned lexical-semantic relations, metonymy is previously studied in sign languages like in American Sign Language (Wilox, 1993, 1998; Taub, 1997; Johnson, 1980).

The definitions and conceptual frameworks discussed in the works of Lyons (Wilox, 1998, 1993; Taub, 1997; Johnson, 1980) were used in identifying, categorizing, and describing metonymic signs in EthSL. There is a direct relationship between the hand shape and the object being portrayed in the metonymic signs displayed in this study. The researcher used video recording, metalinguistic interview, observation, and EthSL dictionary to collect the metonymies. Abundant data of metonymic signs were found in the EthSL dictionary; this, in turn, implies the occurrences of several metonymic types that operate in EthSL. Considering the studies conducted on sign language metonymy, the researcher briefly the patterns of metonymic signs in EthSL.

The data further revealed the presence of the types of metonymy that are mentioned in Taub (1997), Wilox (1993, 1998), and others in sign language literature. Then the selected mechanisms have been discussed with conceptual articulators of signs in EthSL.

## **5.2. Recommendations and Implications to the EthSL Dictionary**

Researchers pointed out the importance of semantics particularly lexical semantics relations in sign language. However, little has been done so far on the semantics of sign languages when it is compared with the studies on phonology, morphology, and syntax. It has been stressed that lexical semantics relations are crucial for the science of dictionary-making. The study suggests that having brief descriptions of the semantic relations of lexical signs needs to be taken as a prerequisite for dictionary making. Most lexicographers argue that a good dictionary is the ultimate test of any theory of lexical

semantics (Melcuk 1974, 1981, 1988); although the contribution of lexical semantic relations for making sign language dictionary is clear, no such research has been done on EthSL. Therefore, throughout this study attempts were made to present, analyze, and describe some lexicographically relevant semantic relations and their implications in dictionary-making.

However, the researcher faced challenges related to the lack of explanation of semantics relationships among the signs currently in use and those included in EthSL dictionary entries due to the absence of systematic and principled researches that address the detailed and appropriate use of polysemy, synonymy, antonymy, homonymy and metonymy in EthSL. Thus, the researcher came to understand that to detect the relationships in sign meanings and patterns of EthSL systematically through comprehensive and principled mechanisms, EthSL dictionary compilers should follow an investigative approach.

The description made in this study on lexical semantics relations will certainly contribute to EthSL dictionary-making by giving a more differentiated and detailed insight into the use of lexical signs through a wide range of language materials. For example, EthSL dictionary compilers can get information on patterns of synonymy while dealing with classifications such as dialectal, stylistic, total synonymy, and others to categorize and select appropriate signs. So dictionary compilers do not merely rely on their assumptions while they relate signs to each other semantically.

More importantly, the study pointed out that lexical relation focuses on the relationships of meanings of the words or signs with the other words or signs, it can be judged by analyzing each word or sign within the given contexts. This study presented and described the relationships of meanings of signs to each other and within contexts. The knowledge obtained from the study is thought to have positive contributions to preparing a standardized EthSL dictionary.

We have acknowledged that the lexical-semantic relations are essential for understanding language and their implications for dictionary compilers. Strictly speaking, the literature on sign linguistics and the findings of lexical semantic relations inform us how signs relate to one another in EthSL and how they can better be arranged and tackled in the EthSL dictionary. Additionally, lexical semantic relations help us how to relate signs to one another through meaning extension. Lack of semantic description for lexical signs especially semantic relations mislead signers in determining the meaning of a particular sign and about other signs. Therefore, it is important to emphasize that semantic theory where semantic relations are involved has a vital contribution to dictionary-making especially at the

level of micro-structure analysis and description of lexical meaning when it has to guarantee solutions to several unanswered questions.

We discussed the importance of semantics in general and lexical semantics relations in particular for making a dictionary. Here the researcher would like to forward the following recommendations depending on semantically related signs and other structures presented in the sign language dictionary in general and EthSL dictionary in particular:

- The dictionary compilers should first set for what purpose they intend to prepare the dictionary; at the same time, they need to identify for which target group (users) they compile the dictionary. The compilers should give due attention to the various features of semantic relations of lexical items in their attempt to craft well-designed sign entries.
- The preparation of the overall structure of the EthSL dictionary should be done based on the sign language linguistic research of EthSL.
- EthSL dictionary authors should provide clear information on how data collection took place and how the selections of sign entries for the dictionary were made. The detailed information on the data collection should address the diversity within the deaf community and language variations.
- The megastructure of the EthSL dictionary contains the componential part of the reference work; however, further information on the unseparated noun, verb signs, variation, etc. is needed.
- Macro-structure of the EthSL dictionary and the macrostructure of sign entries are thematically arranged; sign entries are grouped into 24 thematic groups, and the unfit signs are presented as 'general signs'. However, this grouping and ordering do not involve sign linguistic features (hand shape, location, movement, and palm orientation). Therefore, the researcher suggests that the upcoming EthSL dictionary authors should involve these linguistic features to make them more precise and explanatory.
- EthSL dictionary compilers should present variations as well as synonymous signs, and in doing so they should take into account the contexts of the urban as well as the rural Deaf communities.

- Authors should set guiding principles that govern the presentation of dictionary entries that pave the way for the arrangement of signs by their meaning in a vivid manner.
- To distinguish polysemous signs from homonymous sign entries in the dictionary, lexicographers should consider both the semantic relatedness and the etymological criteria. If sign senses have the same etymology or motivation, they need to be grouped as polysemous signs and described in a single entry, whereas sign senses with different etymologies and semantically unrelated need to be grouped as homonymy and described in a separate entry.
- Sign language dictionary makers must be aware of the different information types about entries; they need to be crafted to serve different functions in terms of the various target groups.
- It is suggested to make cross-reference to all entries that share features with the same Amharic equivalents since several entries are involved.
- It is good if the dictionary makers identify and describe all cross-referenced signs such as synonyms and antonyms.
- Authors of sign language dictionaries shall refer to examples of lemma signs or contexts containing synonyms and antonyms that place important values on signs' contextual meanings to distinguish the sense more clearly.
- The lexicographers also should be aware of the appearance of phonological variants in EthSL. It is also suggested to prefer a lemma sign that contains the main variant to the lemma sign with the less frequent variant.
- It's also important to distinguish variations and synonyms in EthSL. Lemma signs are considered variants if they differ in less than one feature, and they are taken as synonymy if they differ in more than two features.
- Finally, nowadays, corpus-based sign language dictionaries are becoming critical to lexicographers worldwide; thus, the researcher strongly suggests that the compilers of the EthSL dictionary should consider it because it will serve as the basis of lexicographic description giving information on lexical-semantic relations.

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## Appendices

### Appendix 1 Informant Letter of Consent

The purpose of this study is to investigate lexical semantic relations in EthSL, specifically the various meanings related to each and how they described in EthSL dictionary. Participation involves a video recording, informal observation and interview conducted by the researcher and assistants.

I volunteer to participate in a research project conducted by Woinshet Girma from Addis Ababa University. I understand that the project is designed to gather data on lexical semantics of EthSL. I will be one of approximately 12 people being participated for this research.

1.	I have seen signed explanation and understood the information about the Research	<input type="checkbox"/>
2.	I have been given the opportunity to ask questions about the research and my participation.	<input type="checkbox"/>
3.	I voluntarily agree to participate in the project.	<input type="checkbox"/>
4.	I understand I can withdraw at any time without giving reasons and that I will not be penalised for withdrawing nor will I be questioned on why I have withdrawn.	<input type="checkbox"/>
5.	The procedures regarding confidentiality have been clearly explained (e.g. use of names, pseudonyms, anonymisation of data, etc.) to me.	<input type="checkbox"/>
6.	If applicable, separate terms of consent for interviews, audio, video or other forms of data collection have been explained and provided to me.	<input type="checkbox"/>
7.	The use of the data in research, publications, sharing and archiving has been explained to me.	<input type="checkbox"/>
8.	I understand that other researchers will have access to this data only if they agree to preserve the confidentiality of the data and if they agree to the terms I have specified in this form.	<input type="checkbox"/>
9.	Select only <b>one</b> of the following:	<input type="checkbox"/>
	<ul style="list-style-type: none"> <li>• I would like my name used and understand what I have said or written as part of this study will be used in reports, publications and other research outputs so that anything I have contributed to this research can be recognised.</li> <li>• I do not want my name used in this research.</li> </ul>	<input type="checkbox"/>
10.	I, along with the Researcher, agree to sign and date this informed consent form.	<input type="checkbox"/>

\_\_\_\_\_  
An informant Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
The Researcher      Signature

\_\_\_\_\_  
Date

Thank you in advance for your cooperation!

## Appendix 2

### Interview Questions for Informants Personal Information

1. Age = 18-22  23-27  28-32  32-36
2. Sex=Male  Female
3. Your Mother tongue = Ethiopian Sign Language  Spoken language
5. Age onset of your Deafness \_\_\_\_\_
6. Do you Use of EthSL as your favourite language? \_\_\_\_\_
7. Are you member of Deaf Community? \_\_\_\_\_

### Observation Checklist

- a. How do lexical signs that considered as semantically related/correlated each other used by signers of EthSL?
- b. How do signers identify semantically related signs to sort out its meanings?
- c. What do signers do if they exposed to homonymous signs?
- d. How do signers express antonymic signs in EthSL?
- e. Are these semantically related lexical signs included in EthSL dictionary with explanations?
- f. Are synonymic EthSL signs considered as dialects in EthSL among signers?

## Appendix 3

### Transcription Conventions

Notation Example Meaning

Upper case letters  
...+pt  
^

POT  
FINISH+pt  
FATHER^MOTHER

EthSL  
Pointing  
compounding

## Appendix 4: Analyzing EthSL dictionary (taken for as for example)

	A	B	C	D	E	F	G	H	I	J	K	L
229	ከባድ፣ ክብደት (ከሴታ ውጭ ላለ ነገር ለምሳሌ ፈተና፣ ምንባብ ወዘተ)	hard (non-weight concepts for instance exam, reading etc.)	77	poly context	antlo							
230	ከፈለ መስማት መላኝ	hard of hearing	77									
231	ክፍት (አጠቃላይ)	evil (general)	78									
232	ክብብ ምስጋና (ለሰፊ ተኝ፣ ለረጅም ጊዜ ወዘተ)	praise, star (for worker, player etc)	78	poly specific								
233	ጠፋራም፣ መጠፈር፣ ጠፋራት (በ)ይጠት ለለጠቡ ነገር ብቻ	fat, obese, to become fat, fatness (the sign is used for living thing only.)	78	poly context	antro	mealo						
234	ወፍራም፣ ወፍራት (በ)ይጠት ለሌሎች ነገር ብቻ	thick, thickness (for non-living thing only)	79	poly context	antlo							
235	ውስጥ፣ ውስጥ፣ ውስጣጭ፣ መግባት (አጠቃላይ ዓይነት ሆኖ ውስጥ ለውስጥ ለግልጽ፣ ውስጥን መረጋገጥ አንዲሁም ምልክቶች በተቃራኒው ሲሆን ውጭ መውጣትን ያሳያል።)	inside, interna, interior, inner (it is for general concepts and to show inside out there need to repeat inside. When the sign moves in the opposite direction, it shows out, outerto go out.)	79		anto							
236	ውሸት ሀሳት	lie, false, falsehood	79		anto							
237	ውድ (ለዋጋ ክንፍት ብቻ)	expensive, costly, highly-priced (for price-related concepts only)	80	phone	antlo							
238	ዘመናዊ (አጠቃላይ)	modern (general)	80									
239	ዘርፍ፣ ቅርንጫፍ (አጠቃላይ)	branch (general)	80									