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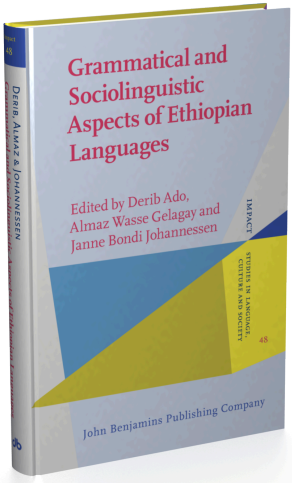


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# Polysemy of Ethiopian sign language

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The purpose of this study was to examine cases of polysemous signs in Ethiopian Sign Language (hereafter ETHSL). There are various processes of forming polysemy in sign language. To carry out this study, data was collected from users of sign language in Addis Ababa and Hossana by means of direct elicitation, video recording and analysis of ETHSL dictionaries. The data showed some cases of polysemy through meaning extension as well as other occurrences of polysemy. A qualitative descriptive method was used to describe the polysemous signs in ETHSL. The article describes different cases of initiating semantic extension processes, such as action vs. result of activity, noun vs. verb, systematic meaning relations, such as animal vs. meat, and generality. Also borrowings from oral language and other sign languages are found. One aim of this study is to contribute new knowledge about how polysemous signs in ETHSL are extended/derived, as well as accounts for the process of meaning extension. This study will be useful for lexicographers of sign language dictionaries, as well as for second-language learners of sign language.

**Keywords**: lexical semantics, polysemy, polysemous signs

## 1. Introduction

Polysemy is usually a normal semantic feature in the lexical categories of nouns, verbs and adjectives. The more frequent a word is, the more polysemy it will develop. To investigate the development of polysemy and how certain signs in ETHSL become polysemous requires a clarification of how meaning extension in sign language can be explained. The term polysemy refers to multiple, related senses of one and the same phonological word. In sign languages, as in oral language, certain signs can convey more than one meaning, and a person normally knows by means of context which meaning is 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 a flight of stairs) (Palmer 1979). Words or signs that have more than one meaning are known as

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either 'homonyms' or 'polysemous words/signs. Homonyms have unrelated meanings that map onto the same phonological form. For example, *flour/flower, break/brake, read/red*.

In sign languages, Johnston and Schembri (2007) claim that homonymy can also be found in lexicalised finger-spelled signs in Australian Sign Language (Auslan). For them, often the reduction of fully finger-spelled items to a single manual letter sign can create homonymy. For example, MONTH, MINUTE and METRE (-M-); INFECTION and INSURANCE (-I-). Normally, homonymy is not an issue in sign language.

In contrast to homonymy, sense extension seems quite common in signed languages (e.g., Wrigley et al. 1990). The difference between homonymy and polysemy is not always clear-cut in oral language, and this makes the design of dictionaries difficult; polysemous meanings are usually listed under the same lexical entry, rule-based or not. Often, historical information about how a word's meaning has changed over time is used to decide whether polysemy or homonymy is involved.

There has been limited research on semantic aspects in sign languages globally, and there is no linguistic research done on lexical semantics of ETHSL to our knowledge, especially not about the relation of polysemy. This is a clear gap that needs to be filled for a better understanding of this special type of language. Furthermore, knowledge of semantics is an essential prerequisite for compiling dictionaries of ETHSL. This paper includes the short history of ETHSL (Section 2), conceptual literature (Section 3), methodology of the study (Section 4), findings of the research (Section 5) and the conclusion (Section 6).

## 2. The history of the Ethiopian Sign Language

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

Ethiopian Sign Language 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' (Lewis 2009), but these might actually be 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'. Ethiopian Sign Language thus has links to American Sign Language (ASL). There was a deaf school in the middle of the 20th century in the northern province of Eritrea (then part of Ethiopia) at Karen, which was opened by missionaries from the Nordic countries, mainly from Sweden. They used the sign languages that were in use in the Nordic countries, such as Finnish Sign Language and Swedish Sign Language. When graduates from the Karen school for the deaf started coming to Addis Ababa in search of employment, deaf people from different schools started swapping signs to communicate (Birtat, 2008: 49).

There are two ETHSL dictionaries, both published by the Ethiopian National Association of the Deaf (ENAD). The first was published in 1976 in collaboration with schools for the deaf (Mekannisa School of the Deaf, Alpha School of the Deaf) and the Ministry of Education. The dictionary, entitled *Ha Metshaf* (First Ethiopian Sign Language dictionary) includes 1009 signs. The second dictionary was published in 2008 in cooperation with the Finnish Association for the Deaf, Deaf schools in Ethiopia and the Ministry of Labour and Social Affairs. It includes 1321 signs. The publication of these two dictionaries paved the way for development and further research into Ethiopian Sign Language. Most of the studies conducted on ETHSL are focused on aspects of phonology (Teshay 2012), morphology (Kidane Admasu 2013) and sociolinguistics (Eyasu 2017).

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 by means of rules, and contain equivalent kinds of sub-lexical units, just like oral languages.

Transfer of meaning seems to be the most obvious feature of language, but all the same it is the most obscure aspect to study. Transfer of meaning is the reason why we use language to communicate with each other, to convey what we mean effectively. Therefore, questions of semantics are an important part of the study of linguistic structure. These studies encompass several different investigations: how each language provides words and idioms for fundamental concepts and ideas (lexical semantics), and how the parts of a sentence are integrated into the basis for understanding its meaning (compositional semantics). This study focuses on the polysemous signs in ETHSL, and falls under lexical semantics.

## 3. Conceptual framework

### 3.1 Conceptual theories that relate to polysemy in lexical meaning

As mentioned above, little research has been done on lexical semantics of sign language and no theoretical framework has been developed for semantic lexical relations, including polysemy. In this article conceptual theories of lexical semantics and principles developed for oral languages have been considered. In principle, the modality of language is quite different in oral and signed languages. Consequently, there should be different theories developed on the notion of polysemy. Some of the traditional descriptions of polysemy have been studied and are discussed briefly below in search for theories and definitions of concepts in line of relevance to this study.

### 3.2 Distinguishing polysemy from other lexical semantic relations

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 a reliable method. Polysemy (from Greek: 'many signs/meanings') can be defined a single phonological form having several conceptually related meanings. The opposite of polysemy is monosemy (from Greek 'single sign/meaning'): a word is monosemous if it conveys only one single sense. Homonymy (Greek 'same name'), on the other hand, is the situation where the same phonological form has two or more unrelated meanings.

Riemer (2010: 162) concludes that contrasting polysemy and monosemy is a false dichotomy. When coining technical terms, monosemy is obligatory: *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). A good example of a homonym is provided by the English noun *wave* and verb *waive*, both pronounced [weɪv]. 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.

Lyons (1977: 550) gives a set of criteria to detect lexical polysemy from homonymy, which will be used in the investigation of ETHSL in this paper. His criteria can be summed up as follows:

a. There must be a clear sense relation between the different senses of a word.
b. The polysemous senses of a word must be shown to be etymologically related to the same original source word.
c. 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: 64) states that lexicographers tend to use criteria of relatedness to identify polysemy, such as speakers' intuition and what is known about the historical development of the items.

Apresjan (1974, as cited in Klepousniotou 2002: 55) proposes dividing polysemy into two types: metaphorical polysemy, in which an analogy is assumed to hold between the sense of the word, and metonymic polysemy, in which both basic and literal senses are the same. He 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. Therefore, it is widely believed that the meaning of polysemous words has been extended through metaphor and metonymy in order to acquire new meanings through active language users.

The neurolinguist Klepousniotou (2002: 4) states in her study of ambiguity that derivation of polysemy might be motivated metaphorically or metonymically, as well as through foreign language influence.

Palmer (1976) discusses the striking example of metaphors that are found when talking about 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 a bed or a 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.

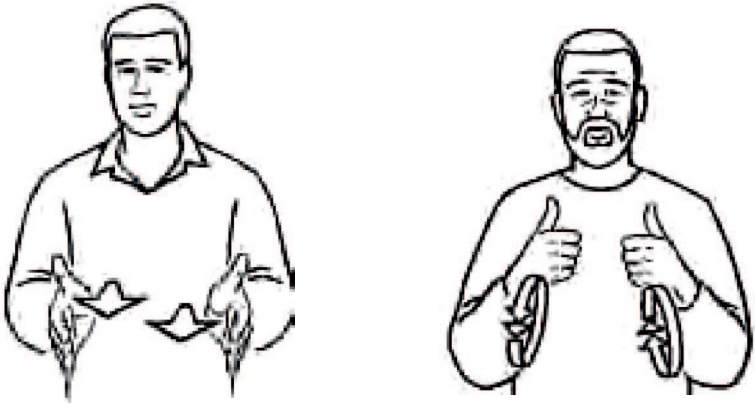
Pustejovsky (1996) introduces the term systematic polysemy. It is defined by a set of word senses that are related in systematic and predictable ways. If we are to identify the semantics of lexical items, we have to check for the eventuality of any given word having multiple interpretations.

Copstake and Briscoe (1996: 15) discriminate between constructional polysemy in an underspecified lexical entry, where a single sense assigned to a lexical entry is contextually specialised, and sense extension, which predictably relates to two or more senses according to rules as a kind of systematic polysemy.

### 3.3 Notions of polysemy in sign language

In sign languages, as in oral languages, the term polysemy is used to describe the same sign as having two or multiple related meanings. Only some discussion about polysemous signs in sign language can be found in linguistics text books or has been listed in definitions in sign language dictionaries. These include Johnston & Schembri (2007) for Auslan Sign language, Valli & Lucas (2005), Cokely (2014), and Naughton (2001) for ASL, and Dikuva et al. (2017) for Turkish Sign Language (TID).

In Auslan, Johnston and Schembri (2007) elaborated some polysemous signs. Below are two examples of polysemous signs in Auslan.



**a.** Street, Road, Way, Method **b.** Congratulate, favourite, popular, praise

**Figure 1.** Lexically extended polysemous signs in Auslan, taken from Johnston & Schembri (2007)

The two signs in Figure 1 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 a process of lexical extension. 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. The above examples of polysemous signs may also be the same in oral languages. However, it is not clear how they are related to form polysemy in Auslan. Furthermore, the meanings in Figure 1, (B), suggest that they belong to different syntactic categories. As mentioned above in Lyons, lexical polysemy is a sense relation within a particular syntactic category, i.e., lexical polysemy, does not cut across syntactic word class boundaries. The description of polysemy in sign language so far indicates that the categories of parts of speech can be different in sign language. In the case of distinguishing nouns and verbs through the process of reduplication, Supalla and Newport (1978, cited in Naughton 2001: 89) discovered 100 noun-verb pairs in which the movement of the verb is reduplicated to derive a related noun. All of the nouns are concrete objects (e.g. CHAIR, KEY, CAMERA), while the corresponding verb (SIT, LOCK, SNAP-PHOTOGRAPH) displays the action performed with or on the object.

Dikyuva et al. (2017) states that the meaning of words or signs is related to language-internal factors and non-linguistic factors, such as entities in the world, situations in which the word is uttered or 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 non-physical entities. Therefore, natural languages have the same words (or signs) for both types of entities. According to them, there are many (without mentioning how many polysemous signs there are and without comparing them with oral language) polysemous signs in Turkish Sign Language (TiD).

Cokely (2014: 9) states 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 linked. The sign and the word each refer to a particular type of citrus fruit and 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 because these real-world realities are common to both communities and are similarly perceived by both communities, and 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. However, there are some cases in which there are polysemous lexical items in ASL that have no direct symmetrical counterpart in English. Of course, if we do not know the real-world realities or how the ASL-signing community refers to them, then there is no possibility that use of either sign will result in clear and accurate communication. Items of this type can be called unpaired polysemous lexical items.

In her description of polysemy in ASL, Naughton (2001: 88) raises questions regarding the nature of polysemy in consideration with 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: 88) 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.

According to Naughton (2001: 89) there are differences in the polysemy found in English verbs of visual perception and those in ASL. These differences are reflected both in form and meaning. 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, although the motivation for recruiting *see* to express the meanings can be systematically analysed. The words or signs in language that we use are combined in order to create utterances that convey meaning.

Taub (1997, cited in Naughton 2001) states that 'signed languages use the same kinds of semantic motivations that spoken languages do, e.g., association and metaphor'. Taub also states 'with the hands of the signer as the primary articulators, the shape of the hands and their movement in space often are iconically motivated'.

Taub defines iconic items as those in which 'some aspect of the item's physical form (shape, sound, temporal structure, etc.) resembles a physical referent'.

To conclude, no widely accepted or acclaimed theory and criteria have been developed for polysemy in sign languages. However, some sign linguists mentioned above are trying to investigate polysemy by adopting some definitional concepts of polysemy from oral language. Some will be used in this study, like Lyons' criteria to distinguish polysemy and some traditional definitional concepts used in sign language polysemy.

## 4. Research method

This research is designed as a qualitative descriptive approach to investigating polysemy in ETHSL. Participants were signers of ETHSL of both genders, over 15 years of age, with an educational level of 8th grade or higher. All participants were members of the deaf community being raised in hearing families, with ETHSL as their L1. Relatively young participants were targeted, since signers in that age bracket generally had a better experience with ETHSL. Twelve participants (six from Addis Ababa and six from Hossana) were selected for the study based on the above criteria. The data were collected using direct elicitation, observation, and video recording of narratives. Additionally, the ETHSL dictionaries, especially ENAD (2008), were used as a secondary source in the analysis.

### 4.1 Direct elicitation

In this study we engaged participants in metalinguistic discussion about what meanings various signs in ETHSL have, whether or not they were conceptually related, or why a given sign has its meanings. The researcher and participants discussed in which process signs form polysemy in ETHSL, as well as how selected signs were judged to be polysemous and whether they were diachronically related. The participants were engaged in metalinguistic discussions with the researcher about what causes signs to develop polysemy in ETHSL and how diachronic information is provided. The researcher asked the participants to give examples of polysemous signs in ETHSL that were conceptually related using criteria and given definitional concepts of polysemy, and showed participants some signs and asked them to list the different meanings for the signs chosen. These metalinguistic discussions were recorded and still pictures taken.

### 4.2 Observations

Some of the data were collected through observations when the researcher was attending informal interview among participants. The researcher was repeatedly involved in the interactions with consultants during informal gatherings and collected polysemous signs that relate to the conceptual definition of polysemy. Consultant observation is an ethnographic research method for qualitative research work, and usually such data provide a control of the data collected from the interviews and a more structured means of soliciting information (Schilling 2013). The researcher met these selected deaf signers during informally scheduled meetings or church programmes.

### 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 to extract the signs, which helps in searching for the occurrence of polysemous sign in videos. For this, six participants were asked to tell multiple narratives in order to generate data. These demonstrations of narratives were recorded as input data for the analysis. The researcher limited her analysis to the signs which are produced by the signers on the video and consulted with signer participant only on extracted polysemy signs from the video.

At the end of each session, the videos were annotated using ELAN software (Crasborn & Sloetjes 2008). ELAN was used to annotate, search and list lexical signs from recorded videos as data sources, and it led to finding examples of polysemous signs to be analysed. ELAN application allows videos to be transcribed, annotated and edited. All the still photos were actually taken from the videos. Any lexical signs were extracted from the elicitation data and then only potential polysemous ones were identified for analysis. The data from videos were identified and analysed in line with the presented theoretical framework and the criteria presented there. Signs that were regarded as polysemous based on these criteria and conceptual literature were selected for further analysis.

Lexical signs were selected from the videos and it was also discussed with the participants to what extent these lexical items were polysemous.

### 4.4 ETHSL dictionary analysis

The two ETHSL dictionaries – a first edition from 1976 with 1009 entries, and a second edition with 1321 entries – were used as a source of data to select potential polysemous signs. This method enabled the researcher to verify the existence of historical relationships. If the polysemous signs found in the video were also included in the existing dictionaries, and – even more importantly – if they indicated diachronic development between the documented senses, these items were counted as potentially polysemous. ETHSL signs were selected for comparison if they were commonly regarded as polysemous signs in the dictionaries. In addition to a metalinguistic discussion on polysemous signs selected from videos and samples from the participants, the definitions of these polysemous signs collected from the dictionaries were also discussed with the participants.

## 5. Research findings

The selected polysemous ETHSL signs were described in the light of the definitional concepts, sense of relatedness and preferred criteria for oral language to find different cases of and paths to polysemy in ETHSL. The data were collected from twelve participants from the selected two research areas Addis Ababa and Hossana, and compared with ETHSL Dictionary description of polysemous entries. The data are analysed and discussed below.

**Table 1.** Polysemous signs registered in the collected data

| Polysemous ETHSL signs collected from video recording | Polysemous ETHSL signs collected from metalinguistic discussion and observation | Total number of polysemous signs for data analysis |
|---|---|---|
| 10 | 12 | 22 |
| INTEREST/NEED, STORY/ NARRATIVE, ENTRANCE/ INSIDE/IN, SICK/DISEASE, PAST/AGO, FOREIGNER/WHITE, YEAR/ AGE/OLD, NATURAL/NATURE, SEAT/ BENCH, MEDICATION/ HOSPITAL | FISH, CAR/DRIVE, POOL/SWIM, TRAIN/LA GER, MERCATO/MARKET, AIRPLANE/FLY, KETTLE/CLAY POT, ORANGE, SEVENTEEN, CHICKEN, CROSS COUNTRY BUS/BUS STATION, CONNECTION/INTERNET | |

As shown in Table 1, the video data gave 10 polysemous signs, and from metalinguistic discussion and observation of data another 12 were obtained. Additionally, 18 polysemous signs from the EthSL dictionary were chosen for closer scrutiny. A total of 40 polysemous signs were collected for analysis based on the criteria mentioned above. These polysemous signs in EthSL are described and discussed below, especially in terms of which semantic process led to their polysemous status.

### 5.1 Different cases of polysemy in EthSL

As stated in Section 1, polysemy refers to a single sign with multiple related meanings. As the data obtained from participants show, polysemous signs are common in EthSL.

Figure 2 below is from a video recording of a story. The sign means 'narrative' or 'storytelling'. These two senses are probably due to their meanings of 'action' and 'result of activity'. The sign 'storytelling' denotes an action, while a narrative is a result of this activity. It probably makes sense to say this sign is polysemous because signers use this sign in different contexts to express different-but-related meanings.

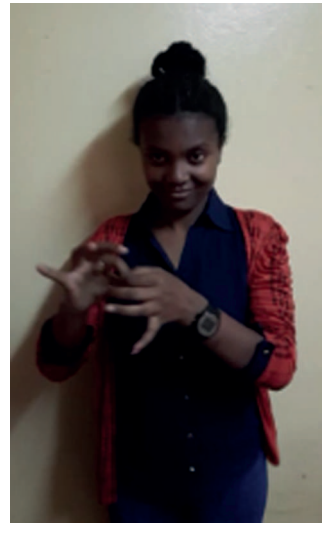


**Figure 2.** Narrative, Storytelling, Story

There are also polysemous EthSL signs that were extracted from the signed stories told by the consultants. The sign in Figure 3 denotes 'need' or 'interest', which are expressed in same way and have semantically related meanings. This is due to influence from English oral language translated into Amharic, as the two senses are

expressed with the same word in oral Amharic language. As observed from participants discussion, they gave examples that are familiar with this when requested to give polysemous sign examples in EthSL.

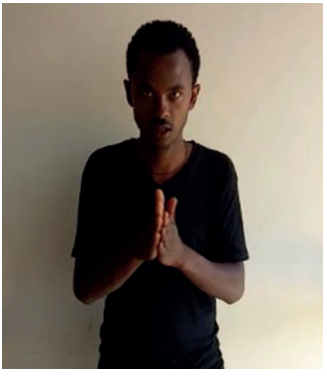


**Figure 3.** Interest, Need

The sign in Figure 4 below was also extracted from a video of a story telling narrative. The sign produced by this woman means 'chicken', which is typical systematic polysemy: animal/meat (cf. Pustejovsky 1996). She actually used one sign to denote 'chicken' in her narrative, both as animal and as meat, which are multiple related meanings of a polysemous sign. In this way, if signs denote an individual animal or a kind of meat that is produced from that animal, and signers systematically refer

**Figure 4.** CHICKEN (a kind of animal), CHICKEN (chicken meat)

to them with one and the same sign, this sign has multiple related meanings and is polysemous. Other polysemous sign examples in EthSL collected from participants through direct elicitation includes the sign FISH to denote the type of animal (fish) and the kind of fish meat, as in Figure 5 below. This is also found in oral Amharic.

**Figure 5.** FISH (kind of animal), FISH (fish meat)

The sign in Figure 6 below was also extracted from a video of a metalinguistic discussion. The sign produced by this man means 'kettle' (metal) and 'pot' (traditional handmade). The signer used the same form of sign language for both senses. This shows that some signs for concrete entities are polysemous because of generality.

**Figure 6.** Kettle, Pot

Some signs in ETHSL become polysemous as result of grammatical ontology between nouns and verbs. This means that some nouns and verbs are represented with the same sign, hence forming polysemy. There is no clear-cut way to distinguish nouns and verbs in sign languages, although repetition of movement for a given noun in sign language may denote a verb derived from the noun. For example, in Figures 7, 8 and 9: AIR PLANE (noun) vs. FLY-BY-PLANE (verb), CAR (noun) vs. DRIVE (verb), POOL (noun) vs. SWIM (verb), and so on. These signs have multiple

**Figure 7.** Airplane, Fly

**Figure 8.** Car, Drive

**Figure 9.** Pool, Swim

related meanings based on the grammatical ontology in sign language (as in Lyons in oral language, and Supalla cited in Naughton). Lyons states sense relation within a particular syntactic category, i.e. noun or verb, while in sign languages, Naughton

mentioned that noun and verb relations exist to form polysemy. However, not all nouns and verbs in EthSL have one sign to denote the polysemy of verbal derivation of nouns.

The polysemous EthSL signs described below given during the participant's metalinguistic discussion are signs related in a systematic and predictable way to form a lexicalised systematic polysemy. This is because there is a predictable relationship between place and function, place and object and physical objects and their activity. For example, MERCATO is a physical object where market activity takes place (activity) as in Figure 10. There are clear relations between these senses.

**Figure 10.** Mercato, Market

- MERCATO (place where shopping takes place)
- MARKET (process of selling/buying)

**Figure 11.** La Ger (local place name), Train

- LA GER (place where a train station is found)
- TRAIN (a kind of transport)

**Figure 12.** Cross Country Bus, Bus Station

– CROSS COUNTRY BUS (bus that transports passengers to the countryside)
– BUS STATION (a place from where buses start trips)

The polysemous examples in Figures 11 and 12 also relate systematically to form polysemy. For instance, LA GER (a place where a train station is found) and TRAIN (a kind of transport) are signed the same way due to the relationship between the place where the train station is located and the object itself, where there is a clear relation between two different senses to form polysemy. This is also true for Figure 12.

## 5.2 The process of developing derivative polysemous signs in EthSL

In this chapter we shall discuss the process or pathways through which the registered polysemous signs in EthSL are motivated to form polysemy. The above polysemous signs presented in Section 5.1 are authentic examples in EthSL from our study. They are analysed and categorised in Table 2.

From Table 2 we can see which signs in the collected data were regarded as polysemous in EthSL, and how the processes are motivated through various pathways of derivation. In addition to metonymic derivation (8), there are metaphorical derivations (5), iconically motivated processes (2), motivation through foreign sign language influence (7). This shows that most common polysemous EthSL signs are motivated/derived through a metonymic process. Below, we shall discuss the pathways to or processes of forming polysemous signs in EthSL.

**a.** *Metonymically motivated EthSL polysemous signs*
EthSL also has polysemous signs that have been extended metonymically and have received meaning through language users. One form of the sign is used as a referential device, one entity is used to stand for another with the primary function of

**Table 2.** Classification of derivational processes of registered polysemous EthSL signs in the investigated data

| Metonymically motivated EthSL polysemy signs | Metaphorically motivated EthSL polysemy signs | Foreign influence polysemy EthSL signs | Iconically motivated polysemy EthSL signs |
|---|---|---|---|
| 8 | 5 | 7 | 2 |
| STORY/NARRATIVE, CAR/DRIVE, BUILD/CONSTRUCT, POOL/SWIM, TRAIN/LA GER, MERCATO/MARKET, CROSS COUNTRY BUS/BUS STATION, CHICKEN ANIMAL/MEAT | ENTRANCE/INSIDE/IN, 17 (17/CRAZY),* SICK/DISEASE, FOREIGN/WHITE, PAST/AGO | INTEREST/NEED, FISH ANIMAL/MEAT,** MEDICATION/HOSPITAL, YEAR/AGE/OLD, SEAT/BENCH, ORANGE FRUIT/COLOUR, CONNECTION/INTERNET, NATURAL/NATURE | KETTLE/CLAY POT, AIR PLANE/FLY |

* The two senses of sign 17: One sense is simply the number 17. The other is derived from bus no. 17, which goes to a church that has holy water that could heal you if poured over you.
** Borrowed from ASL.

providing an understanding. As in Apresjan's explanation that in metonymically motivated polysemy both of the basic senses are the same. The two meanings of such signs are distinct from each other, resulting in polysemy. For example, in Figure 13, the sign for BUILD has the basic sense of BUILDING and CONSTRUCTION, which are linked. This also close to the grammatical ontology process of new meaning extension.

**Figure 13.** Sign illustration for TO BUILD and CONSTRUCTION

There are also commonly used metonymically motivated EthSL signs that are used in Amharic, as well, the surrounding oral language that co-exists with EthSL. For example, as in Amharic, the sign CHICKEN has the basic sense that refers to the animal as well as a secondary sense that refers to the meat of that animal.

The other polysemous EthSL signs obtained from the data that are metonymically motivated are STORY/NARRATIVE, CAR/DRIVE, POOL/SWIM, TRAIN/LA GER, MERCATO/MARKET, CROSS COUNTRY BUS/BUS STATION. Some of these signs are mentioned in the figures above. The sign CAR is the object, and the sign DRIVE is the activity of first sense. This is also true for POOL/SWIM AND STORY/NARRATIVE. In the case of TRAIN/LA GER (place name), the relationship is a result of the interaction between the object and the location of its activity. This is also true for the signs MERCATO/MARKET and CROSS COUNTRY BUS/BUS STATION.

**b.** *Metaphorically motivated polysemous EthSL signs*

From the obtained data, some polysemous signs are analysed to be metaphorically motivated. That is, polysemous signs are extended through metaphor, because there is an analogy between the senses of the sign.

In the EthSL sign ENTRANCE/INSIDE/IN, the closed, bent handshape of the right hand is directed to the 'C' handshape of left hand, indicating that something or someone is inside or entering. The movement of the sign towards the left hand also indicates entering or being inside something. There is an analogy between the senses of the sign. See Figure 14 below:

**Figure 14.** ENTRANCE/INSIDE/IN

In the EthSL sign for PAST/AGO, the flat handshape of the dominant hand of the signer moving backward through shoulder horizontally behind the signer indicates a time metaphor (cf. Naughton). In this case, the sign is motivated through a time metaphor in which a relationship exists between time tense and signing. The metaphor that links these meanings is that portraying the concept of behind. See Figure 15 below:

**Figure 15.** PAST/AGO

**c.** *Polysemous EthSL signs originated from semantic borrowing from foreign languages*

The obtained data of EthSL lexical signs have shown that there are EthSL polysemous signs that arise from foreign influence and semantic borrowing, especially from American Sign Language (ASL). They are also influenced by the oral Amharic language. As languages influence one another when they come into contact, ASL has also influenced EthSL by altering the meaning of existing EthSLsigns.

Sometimes a borrowed sense has replaced the old one. For example, the EthSLsign for CONNECTION originally meant 'connection' but later it developed to mean INTERNET, due to the influence of ASL. This claim comes from deaf signer participants during metalinguistic discussion. In this case, the old sense has survived alongside the new sense, creating a state of polysemy.

Polysemous signs can also rise as a result of semantic borrowing. It may mainly occur during frequent close contact between sign languages, as one of the two languages serves as a model for the other. For instance, some deaf signers use the sign LAND to refer to the country instead of EARTH, where signers borrowed THE sign for LAND from ASL.

Borrowing can also happen between oral and signed languages. For example: *Orange* in oral Amharic can represent both the colour and the fruit itself. This is also the case in EthSL, despite modality differences: whereas oral languages are based on sounds/voice and signed languages are based on visual/manual structure. Deaf people can sign ORANGE to mean 'colour' and to mean 'a type of fruit'. EthSL probably borrowed these related meanings from oral Amharic.

Other examples of polysemous EthSL signs obtained from the data that were motivated through foreign influence include INTEREST/NEED (see Figure 2 above) and FISH (see Figure 5 above), as well as metonymically motivated relations such as CHICKEN as animal and food, MEDICATION/HOSPITAL, YEAR/AGE/OLD, SEAT/BENCH, ORANGE FRUIT/COLOUR, CONNECTION/INTERNET and NATURAL/NATURE.

**d.** *Iconically motivated polysemous EthSL signs*

An iconic sign is one whose form resembles its meaning in some way (cf. Oxford Research Encyclopedia of Linguistics). The sign shown in Figure 16 means 'kettle' or 'clay pot', and signers use one form for both meanings. This is probably due to the influence of iconicity as language-internal criteria in which two or more entities have the same or a very similar shape.

**Figure 16.** KETTLE, CLAY POT

There are some iconically motivated semantic extensions found in EthSL signs in the studied material. It is in relation to some aspects of the item's physical form or features such as shape, structure, tempo, etc., that resemble the physical referent. From the sign in Figure 6 above, the left hand shape represents shape of a cave hole and the movement of the right hand shape shows the entrance through the hole. This is meant to represent the physical form of the entity. AIR PLANE/FLY is another example of an iconically motivated EthSL polysemous sign.

## 5.3 Discussion of polysemy in EthSL dictionaries and in the studied material

Some materials taken from existing EthSL dictionaries were described as polysemous signs in EthSL based on the given criteria and the conceptual definition of polysemy. These polysemous EthSL signs include: BOOK/MAGAZINE/ARCHIVE, INJERA/BAKING INJERA, TUBE/CAVE/HOLLOW, PRACTICE/TRAIN/EXERCISE/REHEARSE, CLASS/ROOM/PART/SERIES, PROFESSOR/PROFESSIONAL, SCISSORS/CUT, CLOTH/WEAR, CEREAL/MILL, CABBAGE/CABBAGE MEAL, PICTURE/DRAW, PUBLISH/PRINT, COPY/DUPLICATE and GAS/DIESEL/BENZINE/KEROSENE.

These examples show that, in contrast to the polysemous signs obtained from my data, those taken from the existing EthSL dictionaries are the same in many

cases. Like polysemous signs obtained from the data, these polysemous signs from existing EthSL dictionaries are the same in their aspects to form polysemy. The aspects of polysemy that were found in the obtained data were also found in the material from the existing dictionaries. For example: vegetable/food as in CABBAGE and CABBAGE MEAL, noun vs. verb, as in SCISSORS/CUT, CLOTH/WEAR, generality as in BOOK/MAGAZINE/ARCHIVE, entity vs. activity, as in INJERA/BAKING INJERA.

On the other hand, the sign presented in Figure 17 means 'practice', 'to exercise', 'training', 'rehearse'. Signers use this sign to represent these multiple related meanings. This is judged as polysemy in two ways: one is within existing various English equivalent translations and the other is the concept itself: 'practice, exercise, train and rehearse' relate to each other.

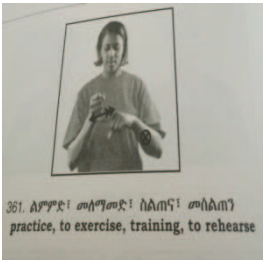



**Figure 17.** PRACTICE, TO EXERCISE, TRAINING, TO REHEARSE (taken from the EthSL dictionary ENAD, 2008)

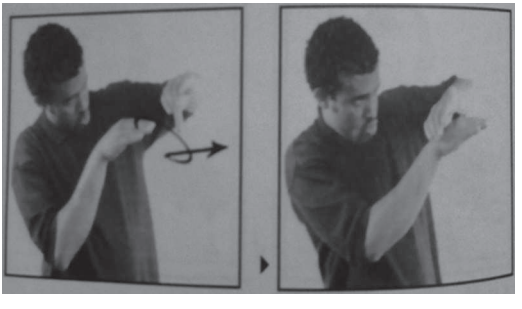


**Figure 18.** TUBE, CAVE, HOLLOW (taken from the EthSL dictionary ENAD, 2008)

In Figure 18, the EthSL sign for 'cave', 'tube', 'hollow form' is polysemous and iconically motivated: there are mapping relations among these entities. The processes of forming polysemy in EthSL that have been found in my elicited data have also been found for material in the existing dictionaries.

## 6. Conclusion

Polysemy is one part of lexical semantic relations that has been studied in various disciplines since ancient times. More recently, studies on polysemy show that this subject is becoming of interest in linguistics, as it presents conceptual and theoretical methods to distinguish polysemy from monosemous lexical items, and also describes the derivational process to form polysemous words/signs. The present study can be one that contributes to the advancement of lexical semantic relations in sign languages focusing on polysemous signs in EthSL.

The study was designed to examine some cases of polysemy in EthSL and to describe the derivational pathways informing polysemous signs in EthSL. The method used was to analyse polysemous signs in the investigated material and to provide descriptive information about which semantic processes they had undergone. To achieve this aim, data were collected in Addis Ababa and Hossana using direct elicitation, video recording and two EthSL dictionaries. A qualitative descriptive research method is applied in the overall study. The video data is analysed using ELAN aligned software to extract lexical signs and selection of polysemy signs using applied criteria and conceptual theories.

The findings show that polysemous signs are a product of such semantic processes as metaphorical, metonymical and iconical development, and also as a result of language contact. The study shows that the polysemous signs in EthSL were motivated or extended through different processes and pathways to form polysemy. These motivational pathways and processes can be metaphorically motivated, being extended through metaphors and acquiring new meanings for a given sign. They can be extended metonymically to acquire new meanings that are different from the sign's original sense. They can also have arisen from foreign influence and semantic borrowing, especially from American Sign Language (ASL). Some are motivated through iconicity, which plays a creative role in forming new and different senses from the existing signs and language internal factors. The study describes the language-internal factors of meaning extension, such as action vs. result of activity, noun vs. verb (grammatical), signs denoting animal vs. meat, and equivalent translation from oral language. The language-internal pattern is the most common motivational extension process of lexical meaning in EthSL, and metonymic and metaphoric motivation are the least common extension processes.

As indicated in the findings section, polysemous signs are common in EthSL. The study also shows that the third criterion presented in Lyons (1977), that the polysemy should be within a particular syntactic category, is not operative in the polysemy of sign language. These polysemous signs are derived/extended to new meanings in different pathways and processes to form polysemy. The

semantically-related polysemous EthSL signs are helpful in using language wherever required. It is useful for language users to be aware of lexical sign ambiguity and its representation of meaning in language. The study also should provide information for lexicographers in developing sign language dictionaries and for broadening research in the area.

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