# *We speak with our hands and voices*: Iconicity in the Adamorobe Sign Language and the Akuapem Twi (ideophones)

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## Abstract

This research drew on the linguistic concept of iconicity and with a period of three months, five deaf signers of the Adamorobe community and some unspecified Akuapem Twi (Akan) speakers were studied and interviewed. The Adamorobe Sign Language examples categorised for retrieval are size and shape, time expression, verbal directionality and emotive and cognitive function. The ideophones of Akuapem Twi examples given in this thesis, based on the implicational hierarchy are sound, touch, movement, smell, vision and size and shape.

This thesis showed out that iconicity is highly exhibited in the Adamorobe Sign Language and the ideophones of Akuapem Twi. There are levels of iconicity demonstrated in each. The research used an iconic scale of 1-5 to check the levels of iconicity; 5-4 representing the highest iconicity and 1 representing the lowest iconicity. This scale was personally developed to aid in categorising the levels of iconicity and it was identified that some of the iconic element are higher in iconicity while others are low. The AdaSL and the ideophones of Akuapem Twi have Highly Iconic Structures that have strong iconic resemblance of the form. There is an image-form-meaning-mapping relationship between the iconic elements. The signs were found to mirror what the signer is presenting; i.e. pictorial representations (visual iconicity in the sign language) and the sounds of the ideophones produced vocal iconicity through the sound symbolisms. The image-form-meaning-mapping relationship between the icons of the AdaSL and the depicted image or concept creates an iconic relationship between the expression, the object and the meaning. Finally, the sign language in Adamorobe was also seen to demonstrate traces of influence from the Akuapem Twi through the mouthings and compound signs.

## Sammendrag

Denne forskningen fokuserte på det språklige begrepet ikonisitet. Over en periode på tre måneder ble fem døve tegnspråksbrukere i Adamorobe samfunnet og noen uspesifiserte Akuapem Twi (Akan) talespråksbrukere studert og intervjuet. De kategoriserte tegnspråk eksemplene som skulle studeres var størrelse og form, tid uttrykk, verbal direksjonalitet og emotive og kognitiv funksjon. De ideofonene fra Akuapem Twi eksemplene som er representert i denne avhandlingen, bygger på implikasjonshierarkiet og er følgene: lyd, berøring, bevegelse, lukt, syn og størrelse og form.

Denne avhandlingen viste at ikonisitet er svært utbredt både i Adamorobe tegnspråk og i ideofonene i Akuapem Twi og det er nivåer av ikonisitet demonstrert i hver av dem. Forskningen brukte en ikonisk skala fra 1-5 for å sjekke nivåene av ikonisitet; 5-4 representerer det høyeste ikonisitetsnivået og 1 representerer  det laveste ikonisitetsnivået. Denne skalaen er personlig utviklet for å hjelpe til med å kategorisere ikonisitetsnivåene, og det ble funnet ulike nivåer av ikonisitet. AdaSL og ideofonene i Akuapem Twi har sterkt ikoniske strukturer som har sterk ikonisk likhet med skjemaet. Det er bilde-form-betydning-mapping mellom de ikoniske elementene. Det ble konstatert at tegnene gjenspeilte det som skulle representeres; dvs. billedlige fremstillinger (visuell ikonisitet i tegnspråk) og lyden av ideofoner produserte lydligikonisiter gjennom lydsymbolikk. Denne mappingrelasjonen mellom ikonene og det avbildede eller begrepet etablerer en ikonisk relasjon mellom uttrykket, gjenstanden og betydningen. Oppgaven viser også spor av påvirkning fra Akuapem Twi på tegnspråket ved bruk av munn og sammensatte tegn.

## Preface

*"What do you need sign language for?"*

This startling question from a professor at the University of Ghana, Legon (in 2011) pushed me to pursue a carrier in cross-linguistic study of languages. In this brief interaction, I realised that most people have limited information on the linguistics of sign languages. The first of this academic pursuit was to write my undergraduate thesis on the Phonology and the Morphology of the Ghanaian Sign language. In this current thesis, the focus is on the iconicity in the Adamorobe Sign Language and the ideophones of Akuapem Twi. These two languages are used in the Adamorobe community located in the Eastern region of Ghana. The thesis presents how iconicity is demonstrated in the iconically motivated signs of the Adamorobe Sign Language and the ideophones of Akuapem Twi.

## Acknowledgements

*All praise to ELOHIM… for He gives grace to the humble…I am so grateful LORD!*

"An attitude of gratitude will take you to the next altitude" (unknown). This research work was borne out of many consultations and interviews that contributed immensely for the success of this work.

I want to express my profound gratitude to my supervisor Øivin Andersen for his great insights and wonderful contribution. His lectures on iconicity and the alacrity with which he taught the course pushed me to focus my research work on linguistic iconicity in sign and spoken languages. Prior to my Masters programme, I was introduced to sign language in 2011 by Dr. George Akanlig-pare (University of Ghana). His passion for sign language was amazing and the course that was initially taken for fun has become a lifetime focus. Working with Dr. Akanlig-pare for a year (National service) as a teaching assistant to the sign language class was an eye-opener to me and that instilled in me the passion for sign language research.

The passion for the cross-linguistic research was steered by Dr. Felix Ameka (Leiden University). His research works and personal conversation with him challenged me to investigate iconicity in the Adamorobe Sign Language and Akuapem Twi. The choice of the Adamorobe community as the case study area was inspired by Dr. Victoria Nyst's (Leiden University) 2007 PhD work on the Adamorobe Sign Language. Personal conversations with Dr. Nyst encouraged me to take this bold step and her insights and suggestions have made this thesis a success. I want to appreciate Professor Christer Johansson (University of Bergen) for his time and wonderful contributions especially at the "Abstract meetings".

Mr. Francis Boison, the former president of the Ghana Deaf Association and a part-time lecturer for the Ghanaian Sign Language class (University of Ghana), introduced me to the act of signing. He led me to the Adamorobe village to get the informants. In all the days allotted for the fieldwork, he went with me to take the data. Thanks to Mr. Sackey Appenteng (University of Ghana) for his insight on the Akuapem Twi. Special thanks to Professor Nana Aba Appiah Amfo, Professor Kofi Agyekum, Dr. Clement Appah, Dr. Grace Diabah, Professor Kofi Saah, Dr. Amuzu, Dr. Fusheini Hudu, Dr. Yvonne Agbetoamedo, Dr. Seth Antwi Ofori, Dr. Saanchi

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*Tusen takk dere alle for å hjelpe meg med min forskning. Jeg er så takknemlig!*

## General abbreviations, grammatical categories, transcriptions conventions

| | |
|---|---|
| AdaSL | Adamorobe Sign Language |
| ASL | American Sign Language |
| GSL | Ghanaian Sign Language |
| HIS | Highly Iconic Structures |
| LIS | Lingua Italiana dei Segni (Italian Sign Language) |
| 1 SG | 1st person singular |
| 2 SG | 2nd person singular |
| 3SG | 3rd person singular |
| 3SG on ε | 3rd person singular (inanimate) |
| 1 PLU | 1st person plural |
| 2 PLU | 2nd person plural |
| 3PLU | 3rd person plural |
| COMPL | completive |
| CONS | consecutive |
| DEF | definite article |
| FUT | future |
| IDEO | ideophone |
| INAN | inanimate |
| OBJ | object |
| PERF | perfective |
| PST | past |
| SUBJ | subject |
| <….> | phrase or sentence in sign language |
| ^…^ | individual signs |
| ..^.. | compound sign |
| …-… | two words signed as one (not compound) |
| → | towards the signer |
| ← | away from the signer |
| Other categories | Deaf (cultural term), deaf (medical term) |

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# CHAPTER 1- INTRODUCTION

### *Introduction*

The concept of icons in human language is an indication that not all the words or signs that are used in communication are arbitrary. There are some words and signs that share direct resemblance with the entity that the speaker or the signer has in mind. Charles Sanders Peirce, in his collected paper on iconicity stated that the interpretation of a sign is in three-fold; the *representamen*, *denotatum* and the *interpretant*. The *representamen* refers to the selection of the entity as a sign, the *denotatum* looks at the selection of an entity as the object for the sign and the *interpretant* is the action of selecting those features of the object which lead to its schematic representation (cf. Pietrandrea & Russo 2002:2). The concept of iconicity exists in both spoken and sign languages. The underlying factor is that both iconicity and arbitrariness play major roles in human languages. Merrell's review of the Peircean paper also stated that "a fully fledged sign must have a representamen, a semiotic object (denotatum), and an interpretant and each of these sign component must enjoy the company of the other two. If not, there is no sign" (Merrell 2001:29). Here the sign refers to the linguistic concept or idea; and it could be signed or spoken.

Iconicity also refers to the "non-arbitrary relationships between the form and the meaning, either visual/spatial in the case of sign language and …or sound symbolism in the case of spoken language ..." (Brentari 2012:22). Iconicity is seen as the "relation between language form and represented context" (Ponterotto 1999:747). Fischer defines Iconicity as "any case in which a linguistic form (in semiotic terms a 'sign') in some degree resembles the object or concept it refers to (the 'signatum'), as in the well-known case of onomatopoeia" (Fischer 2006:18). Based on Fisher's definition, we can deduce that there are levels of iconicity since the resemblance is in *some degree.* In this sense, it is acceptable to have iconic level relations were some features are more iconic than others. In sign language literature, "iconicity has been viewed as a relation between linguistic form and reality" (Wilcox 2004:120).

This research is to identify the iconic elements in two languages that are realised in different modalities. According to Perniss et al, "for humans, the ability to communicate and use language is instantiated not only in the vocal modality but also in the visual modality" (Perniss et al 2015:1).The cross-linguistic iconic investigation will be centred on the Adamorobe Sign

Language and the ideophones of Akuapem Twi. The research will present how each of the languages (Adamorobe Sign Language and the ideophones of Akuapem Twi) exhibit its iconicity based on the research questions.

### 1.1 Research Questions

One question that will be addressed in this work is *the extent to which iconicity is revealed in the Adamorobe Sign Language and the ideophones of the Akuapem Twi*. This thesis will present data from iconically motivated lexemes/signs in the Adamorobe Sign Language and the ideophones in Akuapem Twi. The iconically motivated lexemes will be further categorised into signs for size and shape; expression of time; cognitive and emotive signs and verbal directionality. The ideophones in the Akuapem Twi will also be grouped under different topics based on the *implicational hierarchy* (to be explained in chapter 3). These categorisations are for easy description and retrieval of the data.

Another issue that will be addressed is *the levels of iconicity portrayed in the two languages*. This thesis will outline the concepts that are more iconic and the ones that are less iconic (degree of iconicity/iconic hierarchy) using an iconic scale. This 5-level scale was personally developed using 5-4 as the HIGH in iconicity, 3-2 as MEDIUM in iconicity and 1 as the LOWEST point of iconicity[1]. "There is, however, no means to quantitatively and absolutely measure of just how much iconicity there is in a sign language lexicon. The question, "Iconic to whom, and under what conditions?" is always relevant" (Brentari 2011:17). In spoken language, iconic sounds are rendered differently, for instance; the cry of dogs is rendered as *bow-wow* or *wow-wow* in different cultures. The underlying fact is all these signs or sounds have an iconic backdrop irrespective of how they are manifested.

Finally, *image-form-meaning-mapping* within the iconically motivated lexemes of the Adamorobe Sign Language and the ideophones of the Akuapem Twi will be investigated. This work will investigate if the linguistic forms of the sign (the Adamorobe Sign Language icons and the ideophones of Akuapem Twi) have any correlation with the meanings that are given to it (lexical fields in the AdaSL and sound symbolisms in the Akuapem Twi).

[1] cf. footnotes on page 90 for explanation on the iconic scale.

This thesis does not **compare** iconicity in the AdaSL and the ideophones of the Akuapem Twi; rather it presents data to show how each demonstrate its' iconicity and also try to show how the AdaSL has been influenced by the Akuapem Twi.

### 1.2 Aims and objectives of the research

This descriptive research work on the Adamorobe Sign Language and the ideophones of Akuapem Twi seeks to presents the linguistic iconicity as revealed in the two languages. The Adamorobe community is diversified linguistically and has different languages signed and spoken in and around the community. This Akan speaking community has the Akuapem Twi as the dialect of Akan spoken there and a significant number of people also speak other languages like Ga, Ewe, Krobo and English in the community. The focus of this research work is to describe the iconicity revealed in the Adamorobe Sign Language and the ideophones of Akuapem Twi. The choice of the Adamorobe Sign Language (AdaSL) and the Akuapem Twi is the similarity between them. The AdaSL is by all standards a natural language and it relies on the hands and the body for communication. Interestingly, there are a number of similarities between the AdaSL and the Akuapem Twi. The major similarity has to do with the serial verb construction that is found in the AdaSL (Nyst 2007:163) and Akan (Osam 2003:14). Another objective of the study is to create a database of iconic lexemes in the Adamorobe Sign Language and the ideophones of Akuapem Twi (cf. appendix 2 & 3). Thus, iconicity in language will be discussed as we delve into the images and the sounds that evoke mental pictures.

### 1.3 Significance of the study

A study of iconicity in a spoken language (ideophones of the Akuapem Twi) and a sign language (Adamorobe Sign Language) is important to the understanding of certain concepts especially if the two languages have some similarities. Mostly, sign languages are thought of to be different from the spoken languages used in the same community. However, for the Adamorobe Sign Language and the Akuapem Twi, research (Nyst 2007, 2013) has indicated that the two languages have some striking similarities.

This study will be the first cross-linguistic analysis of iconicity in the ideophones of Akuapem Twi and the iconically motivated lexemes of the Adamorobe Sign language. It will therefore serve as a point of reference for subsequent studies. Furthermore, this research will be the first

linguistic documentation of iconicity in a sign and spoken language in Ghana done concurrently. According to Nyst, "the studies available on African sign languages reveal unique structural features not attested on non-African sign languages so far. Thus, research on African sign languages is important for the typology of the sign languages as well as for the general typology of the African languages. The diversity in Signing communities in sociolinguistic terms offer valuable opportunities for studying the impact of social settings on Sign Language structure… The scientific examination of African sign languages is of major importance to the emancipation and participation of deaf Africans in society" (Nyst 2013:77). The research on the AdaSL and the Akuapem Twi will help to know the general typology of these two Ghanaian languages and also give a form of recognition to the Deaf community in Adamorobe.

### 1.4 Working Definition of Iconicity

Almost all the defenders of iconicity in language agree to a form-meaning-mapping between the idea and the concept. Tai stated that "…since language is used to represent reality, linguistic structure may reflect the structure of the physical world as human beings perceive it" (Tai 1993:156). Iconicity is revealed as the shadow of the entity that is been represented; it is a direct or indirect resemblance of the entity that the speaker or the signer is trying to communicate. Icons are revealed as picturesque, informative, revealing and imaginary to the ideas or the entities that are described. In verbal languages, iconicity is revealed in sound symbolism, the syntactic structures, the morphology, discourse and pragmatic structures. In sign languages, iconicity is revealed in lexemes that are iconically motivated, in the syntactic structures and the standard signs that are used.

For this work, I will define *iconicity as the mapping relationship between the image, the form and the meaning (Image-Form-Meaning).* The image in the verbal and sign languages are represented as the entity, the idea or the concept. The form in the verbal language, include sound symbolism, the syntax and the morphology; the form in the sign language include the hand configuration, movement of the hand, orientation of the hand and the location of the sign. The meaning for both the verbal and the sign languages is the intent or the message that the linguistic sign is meant to convey. This thesis will work around the theme of image-form-meaning-mapping relationship in the iconically motivated signs in the Adamorobe Sign Language and the ideophones of Akuapem Twi.

### 1.5 Outline of thesis

Chapter 1 presents an introduction to the thesis with brief notes on the concepts of iconicity. It also presents the research questions, aims and objectives, the significance of the study, my working definition of iconicity, a brief background introduction of the Adamorobe community and its languages, and the research methodology. Chapter 2 presents an in-depth background studies into the linguistics of sign language and ideophones. Furthermore, chapter 2 delves into the differences between sign and spoken languages. Finally, brief notes on the psychology of deafness and the Deaf culture is given.

Chapter 3 presents the theoretical framework on iconicity in language with focus on diagrammatic iconicity and imagic iconicity, the Peircean and Saussurean views of language, iconicity in sign language, iconicity in spoken language, other relevant research from different languages (spoken and signed) and the motivation for using iconic elements. Chapter 4 focuses on the detailed research methodology and the theoretical and practical challenges. It also highlights on the relevance or validity of the data to the research questions.

Chapter 5 presents the detailed description of the data and discusses the important findings of the thesis in relation to theoretical framework and other research works. It addresses two of the fundamental questions being discussed in this thesis (extent of iconicity and levels of iconicity). Chapter 6 gives the summary and the concluding remarks on the issue of image-form-meaning-mapping relationship between the iconic elements in the AdaSL and the ideophones of Akuapem Twi. Finally, the chapter concludes with the direction for future research work.

### 1.6 Background to the Adamorobe people and their languages (Fieldwork Location)

Adamorobe is located in the Eastern Region of Ghana and the community is noted for the high rate of deafness. The major spoken language in Adamorobe is the Akuapem Twi dialect of Akan. Other languages that are used by few minorities of the community are the Adamorobe Sign Language, Ghanaian Sign Language, Ga, Ewe, Krobo and English. The linguistic diversity of the community is as a result of migration of people into the community for work. The community has a stone quarry that has attracted a lot of non-natives to the place. Also, the community is under expansion as real estate businesses have acquired huge plots of land for estate development. There is a mineral water factory in the community that has also employed people

from different backgrounds. These factors are a good indication for a linguistic intercourse between the above mentioned languages. There is daily communication between each of these groups of people among themselves. The need for service to be rendered demands a linguistic code that can be used by these cross sections of people for their daily communication. The major lingua franca for the people of Adamorobe is the Akuapem Twi which happens to be the dominant language spoken by the majority.

### *1.6.1 Adamorobe Sign Language*

The Adamorobe Sign Language is an indigenous Village Sign Language[2] used in Adamorobe. The community is noted for its unusually high incidence of hereditary deafness of an estimated 1.8% of the total population (my fieldwork, 2014) which is a reduction from the 2% in 2001 (Nyst 2007:25). Nyst reports that the total number of deaf people at Adamorobe at the time of her research (in 2001) was 35 as compared to the 45 recorded during the 1960 Census of Ghana (Nyst 2007:24). At the time of my fieldwork (2014), there were 25 deaf people (based on headcount) in a community of about 1400 inhabitants. The reduction may be as a result of the laws instituted by their former chief that prevented marriage between two deaf people (Nyst 2007, Kusters 2012) or the migration of different people into the community. Nyst stated that "former chief Nana Kwaakwa Asiampong II prohibited marriage between two deaf persons. It is not clear whether this was the result of the genetic counselling given in 1972" (Nyst 2007:28).

The AdaSL is independent of the GSL and its structures are based on Akan (Edward 2012, Nyst 2007) but the GSL was developed out of the ASL (through the effort of Andrew Foster[3]). Akan is a Kwa language which is known for its noun classes, grammatical nouns and serial verb constructions (Osam 1993:153, Osam 2003:2). Miles (2004:536) reports that "the Deaf in Adamorobe are the first substantial historical group of African people known to have used a formal sign language". The deaf adults in Adamorobe communicate by clicks, mouthing and hand signs. The Adamorobe Sign Language (AdaSL) uses a lot of serial verb constructions used in the surrounding spoken language which is Akan (the Akuapem Twi dialect, cf. Nyst 2007:190). The Adamorobe Sign Language is an endangered sign language because over the

[2] Village sign languages develop within small communities or villages with a high incidence of hereditary deafness (Meir et al 2010).
[3] Andrew Foster was a deaf African-American missionary who established the first school for the deaf in Ghana.

years the Deaf children have attended a boarding school for the Deaf in Mampong-Akuapem which uses the Ghanaian Sign Language and therefore the children are gradually shifting from the Adamorobe Sign Language to the Ghanaian Sign Language (Edward (in progress), Nyst 2007).

The AdaSL shares some similarities with the GSL and one of the similarities is iconicity. Iconicity is a universal concept in sign languages all over the world. The AdaSL is unrelated to the GSL; however, as stated by Nyst (2007:30), the AdaSL has borrowed a lot of signs from the GSL. In this research, it was realised that these signs are usually in the domain of formal education (including the concepts of science & technology and religion) and some nouns and verbs that are used for daily communication. The major difference between the GSL and the AdaSL is that while as the GSL is a documented sign language that is used for formal transactions (in Deaf schools, on national TV's etc.), the AdaSL is not a documented sign language though many researchers have delved into several issues in the AdaSL (Frishberg 1987, Okyere & Addo 1994, Kusters 2012, Nyst 2007, 2013, Edward (in progress) etc.) and it only used in Adamorobe. This makes the GSL a progressive sign language while the AdaSL is an endangered sign language.

### *1.6.2 Akan*

Akan is a Kwa language spoken in Ghana and in parts of the Ivory Coast (known as Anyin in Ivory Coast). The 2010 census of Ghana recorded that the Akans make up 47.5% of the total population of Ghana. The Akan language has three main dialects; Akuapem Twi, Asante Twi and Fante (and several other sub dialects). The Akuapem and the Asante dialects are known as the Twi dialects because they share a lot of similarities. Akan is also spoken by an undisclosed number of people in Ghana as a second language. It is used in education where it is taught as a subject in schools, Akan is used in the mass media for radio programs, and it is used in religious institutions such as churches in Akan speaking areas. Gradually, Akan in Ghana is gaining a wider popularity and "even though no official declaration has been made, Akan is growing in it influence as a potential national language, especially since people who speak other languages sometimes use it as their lingua franca*"* (Osam 2003:3). Akan has verbal affixes, motional prefixes, mood, negation and serial verbs construction (Osam 2003).

Akan like several languages of the world has features of iconicity and this thesis will specifically focus on the ideophones of Akan (Akuapem Twi[4]). The choice of ideophones was motivated by the fact that it has been studied to have high incidence of iconicity (Dingemanse 2011(a & b) Perniss et al 2010, Bodomo 2006, Ameka 2001 etc.). Unlike the AdaSL which is an endangered language, Akan is a progressive language and has more non-native speakers than any other indigenous Ghanaian language. Akan is also a well-documented language with a grammar that has been described in several areas (phonology, morphology, syntax, semantics, pragmatics etc.).

### *1.6.3 Akuapem Twi*

The Akuapem Twi is the dialect of Akan that spoken in parts of the Eastern region of Ghana including the Adamorobe community. The native spoken language of Adamorobe is Akuapem Twi and based on my research, most of the residents of Adamorobe (except some of the new settlers) are native speakers of Akuapem Twi. The basic school in Adamorobe teaches the Akuapem Twi dialect of Akan as a subject to the Junior High School level. The differences between the three major dialects of Akan are phonological and lexical (different words for the same concept). Thus the syntax of Akuapem Twi is similar to that of Asante Twi and Fante.

### *1.6.4 Relationship between the AdaSL and Akuapem Twi (Akan)*

Adamorobe is located in the foot of a valley in the Eastern Region of Ghana and it is surrounded by Akan speaking communities and there is a significant influence of Akan on the sign language. Nyst (2007) indicate that a higher proportion of AdaSL hearing signers are speakers of Akan (Akuapem Twi) and as such the serial verb constructions found in Akan are also found in the sign language. Furthermore, the dominant hearing language that is spoken in Adamorobe is Akuapem Twi and this has influenced the sign language. For instance, the *mouthings* and compound signs used in the AdaSL are based on Akan (examples in chapter 5).

Developmental projects being undertaken in Adamorobe and its environs have attracted a number of people to the community. The once small community is gradually extending its tentacles and Akuapem Twi is the lingua franca used in the community. This trend has made the AdaSL a language prone to endangerment. The *Deaf community* has to inculcate the Akuapem

[4] There is the tendency to interchange Akuapem Twi with Akan. Since the focus of this thesis is Akuapem Twi and the AdaSL, most of the examples will be from the Akuapem Twi dialect of Akan.

Twi into the sign language so that it will be easier to communicate with the non-signers of the AdaSL. A survey of the community gives an alarming indication that when the last adult AdaSL signer dies, there is a possibility of the death of the sign language since the younger Deaf communicate among each other with the GSL even at Adamorobe (cf. Edward, in progress). At the time of this research, (my fieldwork, 2014) there were 25 deaf people in Adamorobe; 15 adults and 10 children. Some of the children were in the boarding school for the deaf in Mampong.

According to Nyst, the hearing people in Adamorobe who have a good command of the AdaSL, were also found to use a third fluent language form, i.e. blending the AdaSL signs with the spoken Akan (Nyst 2007). This assertion was also confirmed in my fieldwork in relation to this thesis. The visits to Adamorobe confirmed that the hearing signers have a unique blend of Akuapem Twi and the AdaSL which is understood by both the deaf and the hearing signers of the AdaSL. This third language could be termed a *pidgin* that is made up of the majority Akan and the minority AdaSL (cf. Edward (in progress ) on language contact in Adamorobe). I believe most of the mouthing (voiced words) that are used by the deaf in signing could be triggered by the hearing people (through lip-reading).

There are also variations that cause differences between the two languages. The main variation between AdaSL and Akan is the means of production and perception. While AdaSL relies on signs and the visual system, Akan relies on sounds and the auditory system. As stated by Pietrandrea & Russo (2002:1), "there is a clear difference in the way the phono-acoustic modality filters iconicity in verbal languages as compared to the visual-gestural modality of signed languages". Furthermore, "in order to function as communication, symbolic structures require a perceptible phonological pole, whether this is defined by the articulators used to produce the signal (vocal tract vs. hands, face, and body) or the channel of transmission of the signal (acoustic vs. optic)" (Wilcox, S., & Xavier, A. N. 2013:94). This clearly shows that the purpose of language, whether signed or spoken is to communicate and such the signals produced are meant to be understood.

## 1.7 Methodology and Data Collection

The fieldwork was from June through August 2014 and the destination was Adamorobe and surrounding Akan communities in Ghana. The data for the AdaSL was solicited from the signers of AdaSL located in Adamorobe in the Eastern Region of Ghana. However the data for the Akuapem Twi was solicited mostly outside the Adamorobe community, with only a handful of interviews done in Adamorobe. The fieldwork was a comprehensive way to solicit majority of the data needed for the Masters' thesis. On the issue of research ethics, I sought for the consent of the informants and their approval was taken before I started with the research work. In all, I worked with five deaf informants and an unspecified number of hearing informants. The choice of the informants was to recruit a representative sample for the data collection. The informants for the Adamorobe Sign Language were made up of adult men and women. I interviewed 20% of the deaf people in Adamorobe (5 out of 25 deaf people). The Akuapem Twi section interviewed only three people with majority of the data taken from Akan speaking radios and other recordings done at the spur-of-the-moment. The judgement sampling method was used to recruit the informants and the data was collected through interviews, elicitation, participant observation etc. This thesis relied on both primary and secondary data. A detailed description of the research methodology is given in chapter 4.

## 1.8 Chapter Summary

This chapter introduces the focus of this thesis by presenting the research questions, the aims and objectives of the study; the significance of the study and a working definition of iconicity. Finally, the chapter presents brief ethnographical information on the Adamorobe community and it languages. To end the chapter, a summary of the research methodology was presented. The next chapter will discuss the history and the linguistics of sign language and ideophones.

# CHAPTER 2- BACKGROUND KNOWLEDGE

## Introduction

One aim of this research is to answer the question *to what extent is there iconicity in Adamorobe Sign Language and the ideophones of Akuapem Twi*. Other issues that will be addressed are *the levels of iconicity portrayed in the two languages* and *image-form-meaning-mapping* within the icons of the Adamorobe Sign Language and the ideophones of Akuapem Twi.

For this section of the work, certain background information on the linguistics of sign language and ideophones are given. This section presents the linguistic basis of the issues that will be raised in the subsequent chapters of this work. Furthermore, the section seeks to introduce the linguistic complexities of sign languages and ideophones. The chapter also gives a summary of the differences between sign and spoken languages. Finally, the Deaf culture and the psychology of deafness are presented since the community of study is noted for its high incidence of *genetic deafness* (Kusters 2012, Nyst 2007, Okyere & Addo 1994, Frishberg 1987).

## 2.1 A brief history of Sign Languages in the world

The linguistic study of the language of the Deaf (sign language) began in the 1960 after William Stokoe published his monograph that authenticated the American Sign Language as a natural language. History has recorded several instances where people tried to teach the Deaf with spoken language (oralism) as against sign language (manualism). One such notable case is the Milan Conference that was held in 1880 to discuss the language to be used to teach the Deaf. The conference had only one Deaf representative out of the 16 attendees and the conclusion that was drawn was the use of oralism (speech) to teach the deaf people and "European deaf schools became (strictly) oral" (Vermeerbergen 2006:171). Another important proponent of oralism is Alexandra Graham Bell who invented the telephone in the year 1876 and Gallaudet says it is "the testimony of the last named is so pointed and so in accord with my own views" (Gallaudet 1997:33). After several decades of indecision on which language to use to teach the Deaf, finally sign language has come to stay as the official language for Deaf Education and Communication. Meanwhile as people in the Western part of the world (America and Europe) were still deliberating on which language to use to teach the Deaf; in Africa, history records that there were different established sign languages that were being used by the Deaf. Miles (2004:535)

records that Celine Baduel Mathon in 1971 "made a detailed classification of gestural communication in West African countries from the documentation of the two previews centuries". This is a clear indication that regulated sign languages might have been in existence in most West African communities. Miles (2004:536) also stated that the Deaf in Adamorobe (Ghana) are "the first substantial historical group of African deaf people known to have used a formal sign language". In Okyere & Addo (1994:97) they also recorded that the co-existence between the deaf and hearing people at Adamorobe dates back to 1733; however, they also cited no evidence to buttress their claim (also cited in Miles (2004)). The deaf adults in Adamorobe communicate by hand signs, clicks and mouthings. The Adamorobe sign language uses a lot of serial verb constructions that is also used in the surrounding spoken language which is Akuapem Twi (Nyst (2007:18).

Another interesting phenomenon in the history of sign language in the world is the Martha's Vineyard Sign language. According to Groce, "for 2 and half centuries, 1690-1950, a high rate of hereditary deafness appeared in the population of the Island of the Martha's Vineyard in Massachusetts" (Groce 1985:43). This group of people also developed their own sign language for communication which "never became identical with the American Sign Language" (Groce 1985:44). After, Stokoe's monograph in 1960 (Stokoe 1960), sign language has seen several incorporations into the linguistics domain and several attempts have been made to describe its general linguistic features like phonology, morphology, syntax, semantics, pragmatics etc.

### 2.2 A brief History of Ideophones as a Linguistic icon

Previous mentioning of works on ideophones can be dated as back as the 4th Century BCE. "The earliest extant linguistic document to mention imitative words is Pāṇini's *Ashṭādhyāyī* on Sanskrit, usually dated to the 4th century BCE. Pāṇini's succinct statements on the matter are found in sutra's I.4.62, V.4.57, VI.1.98-100 and VIII.2.4" (cf. Dingemanse 2011a:58). Among many linguists of the 19th century who did make thorough investigation on the linguistics of ideophones was "Clement Martyn Doke… a linguist working mainly on South African languages" (Dingemanse 2011a:66). Doke defined ideophones as "A vivid representation of an idea in sound. A word, often onomatopoeic, which describes a predicate, qualificative or adverb in respect to manner, colour, sound, smell, action, state or intensity" (Doke 1935:118). Also, as

stated by Dingemanse, "for Doke, ideophones are a rhetorical vehicle belonging to emotional literature, poetry and stories" (Dingemanse 2011a:297). Ideophonic research on some African and Asian languages has been done by linguists like; Doke (Bantu languages, 1935,1948), Ameka (Ewe, 2001), Bodomo (Dagaare and Manderin, 2006), Agyekum (Akan, 2008), Dingemanse (Siwu, 2011a, 2012) etc. According to Dingemanse (2011a, 2011b, 2009), ideophones have been studied for African and Asian languages.

The ideophones of the Akan language also share some features with most African ideophones. These onomatopoeic sounds have been found to "evoke complex sound-emotion pictures or act as intensifiers. They often draw on onomatopoeia and similarities between sensations of speech and other morphosyntactic features such as reduplication" (Agyekum 2008:102).

### 2.3 Features of a natural Language

It is of no doubt that the Adamorobe Sign Language[5] and Akan are natural full-fledged human languages and they share the features of a natural human language. It is however difficult for some people to accept that sign languages are full-fledged human language. This section of the work is dedicated to show how both the AdaSL and the Akuapem Twi are full-fledged human languages.

In the basic proponents of language, one is introduced to the fact that for a language to be seen as a natural language, it should be able to exhibit some design features of language (Hockett 1963). These features include; *productivity, cultural transmission, displacement, arbitrariness, duality, discreteness* and also have the ability to *be spoken or used for communication*. Sign languages are also full-fledged natural languages because they have the ability to exhibit all the features that are listed for a natural language. Hockett (1963:6ff) and Yule (1996:19ff) gave a description of language universals and some features of a natural language. These features will be used to establish the AdaSL and the Akuapem Twi as natural languages.

[5] The Adamorobe Sign Language will be referred to as AdaSL, the Ghanaian Sign Langauge as GSL, and the American Sign Language as ASL. Some Akuapem Twi examples will be indicated as Akan if it runs through all the dialects of Akan. This work will bring examples from other languages like English, Ga, Ewe, Siwu, Chinese etc.

*Productivity*- A full-fledged language should be productive to create new words and concepts for the ever changing world. The AdaSL and the Akuapem Twi are able to create concepts for the communicative needs of its users.

*Cultural Transmission*- The ability to pass on a language from one generation to another is also another feature of a natural language. No person whether deaf or hearing is born with a specific language. We learn the languages of the communities that we are born into. Thus, language is acquired from contact and is *culturally transmitted* from one generation to another and this is the same with both sign and spoken languages.

*Displacement*- One other feature of a true language is that it must have the capacity to pass on events that are remote from us in time and space. The AdaSL and the Akuapem Twi have the ability to do that. The story telling times and the video sessions proved that the AdaSL is well capable of talking about events that are remote from us in time and space.

*Arbitrariness*- The concept of *arbitrariness* has to with the fact that in human language, the name of an object does not match up to the object. This feature is to some extent found in the AdaSL because not all the signs used are iconic, some of the signs are symbolic and do not have a direct link to what the signer has in mind. The arbitrary signs have no connection to the idea or entity that the speaker is putting across.

*Duality*- Furthermore, all natural languages have two tiers of meaning; the sound level and the meaning level. Whereas the phonology (a closed system) deals with the sounds, the morphology (an open system) deals with the meaning. Also, sign languages use visible sounds as opposed to audible sounds in spoken language. There are different shapes of the hands (a closed system) that are combined in the AdaSL to form meaningful units (an open system).

*Discreet*- A natural language has forms that are unique to meaning creation and these are used to form meaningful utterances. These *discreet* forms are the alphabets that come together to form the words, phrases and sentences. In sign languages, the *handshapes* are the discreet forms used to form words, phrases, sentences etc.

The final feature of a natural language is that it must be spoken (*communicate*) and both the AdaSL and the Akuapem Twi are used to communicate.

## 2.4 The linguistics of sign language

Sign language linguistic research has been focused on in Linguistics after the groundbreaking work of William Stokoe in 1960. This section will give a brief description of the linguistics of sign languages looking at the phonology, morphology, syntax and semantics.

### *2.4.1 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 and the face that we limit signing to does 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[6]. "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 2011:18). The aspects of sign language phonology include the following;

#### 2.4.1.1 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 whiles the nonmanual form relies on facial expression, mouthings, clicks etc. The articulatory parameters are the following;

1. The *Handform or handshape* refers to the acceptable hand configuration in signing. A phonological analysis of the handform is that since sign language does not rely on sounds, the handform 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.

[6] The section on the phonology and morphology was adapted from my paper *The Phonology and the Morphology of the Ghanaian Sign Language* (Edward 2014). It has been edited to include the phonological features of the AdaSL.

3. The *Orientation* in sign language has to do with 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) are moved to create a sign. The movement in phonological terms is the stricture made by the dominant and the non-dominant hands.

#### 2.4.1.2 Nonmanual markers

The nonmanual 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 in signing and sign language has a "grammar of the face" (Sandler 2010:10). The nonmanual markers in sign languages include tilting of the head, shrugging of the shoulders, eye brow 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 etc. Stress, pitch etc. are all indicated with nonmanual markers in sign language. The AdaSL also use other nonmanual markers like mouthings and clicks and these nonmanual markers differentiate the AdaSL from other sign languages. There are some words that are signed with mouthings and clicks in the AdaSL (examples will be given in subsequent chapters).

Other phonological realisations 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.

There exist some minimal pairs in the AdaSL where the signs are differentiated by only one articulatory parameter. Example is the signs for MONDAY and <HOW ARE YOU> which are differentiated by the movement of the handshapes.

**Fig. 2.1 MONDAY** **Fig. 2.2 <HOW ARE YOU>**

### *2.4.2 Morphology*

"Morphology is the identification, analysis and description of the structure of a given language's morphemes and other linguistics units"[7]. 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 structure. With the simultaneous morphological structure of sign language, grammatical features "are realised 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 beginning or end of the base sign" (Aronoff et al. 2005:309). 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. Compounding in the AdaSL include the sign for CHURCH (as a place of worship) and CONFUSE (cf. chapter 5, section 5.4).

### *2.4.3 Syntax*

According to Sandlar, "as in other domains of linguistic investigation, the syntax of sign languages display a large number of characteristics found universally in spoken languages". This characteristic includes recursion "the potential to repeatedly apply the same rule to create

[7] http://en.wikipedia.org/wiki/Morphology_%28linguistics%29

sentences of ever increasing complexity" (Sandlar, 2010:8ff). This can be exemplified with serial verb constructions found in Akan and its influence can be seen in Adamorobe Sign Language. The example below is a serial verb constructed sentence in Akan and the AdaSL;

1. Araba bɔ-noa bi a-ma hɛn ma yɛ-dzi.
   Araba FUT-cook some CONS-give 1PLU-OBJ so 2PLU-OBJ-eat
   *Araba will cook some food for us to eat.* (Osam 2003:13 edited, Fante dialect).

2. <ARABA^COOK^GIVE-US^ EAT>. (AdaSL)
   *Araba will cook some food for us to eat*.

### *2.4.4 Semantics*

Sign languages have semantics and that makes it a natural language, without semantics, sign languages would have been a meaningless manipulation of the hands. The semantics of sign languages have the different types of meaning; referential, social and affective meaning. It has relationship between lexical items like hyponymy, synonymy, antonymy, converseness, metaphor etc. (cf. Valli et al 2011:152ff).

## 2.5 The linguistics of ldeophones (Akuapem Twi ideophones)

Ideophones are seen as expressive (cf. Agyekum 2008) and they "have various types of iconic mapping between form and meaning and these are non-arbitrary" (Westerman 1927,1937 cf. Dingemanse 2011:71). Despite the highly iconic nature of ideophones, they still have an elaborate linguistic classification. Agyekum (2008:104ff) gave a linguistic classification of ideophones in Akan and I will use his classification (and my explanation) to describe briefly the linguistics of the Akuapem Twi ideophones.

### *2.5.1 Morphophonology of ideophones*

According to Agyekum (2008), the ideophones in Akan resemble verbs, nouns and adjectives because they can be reduplicated. Examples are: *ngaa-ngaangaangaa* (the sound of a baby's cry); *pum-pumpumpum* (the sound from heavy knocking) etc. This compounding process combines "whole or part of the stem" and it can be a reduplication of the same word or two different ideophones. When ideophones are reduplicated, it shows the intensity of the action; it

also indicates plurality and sometimes depicts the duration of the action. However, two ideophonic words can also be reduplicated to mean a new word. For example; *wabam* which is a compound of *wam* and *bam* and it means to slap energetically. *Wam* is "the sound that one hears as result of a slap" and *bam* is the "sound that comes out when one hugs another" (ibid, pg.104). Reduplication of Akan ideophones can be partial or total. When it is partial, part of the stem is reduplicated (e.g. *kikiriw*-rough surface) and when it is total, the entire stem is reduplicated once or a number of times (e.g. *fekɔfekɔ*- smooth). The stem structures of Akan ideophones are usually Consonant-Vowel-Nasal (CVN) and Consonant-Vowel-Vowel (CVV) and are usually initiated by plosives/stops (Agyekum 2008). According to Ameka, the phonology of Ewe[8] ideophones is also CVN or CVV (Ameka 2001:30).

Furthermore, some ideophones have phonotactics that do not agree with the general phonotactics of the Akan language. This could arise from the fact that the ideophones try to mimic the sound of an action. For instance;

*gbim*- collision (the voiced labiovelar [gb] is not permissible in the phonotactics Akan language)

*sokooo*- rosy/ smooth/wealth (the continual lengthening of the [o] is not used in other words in the Akan language except in songs and ideophones)

*gañzei*!- high intensity of light that blurs vision ([z] is mostly used in borrowed words, the closest is [dz] used in the Fante dialect).

### *2.5.2 Syntactic Structure*

Syntactically, the ideophones in Akan normally perform adverbial functions and are linked with verbs. They also occur at the adjunct position and as such adverbs and they modify verbs and nouns (cf. Agyekum 2008). The ideophones rarely begin a sentence though they can stand on their own to make sense. If an ideophone begins a sentence, it acts sometimes as an adjective pre-modifying the noun. They can however end sentences, phrases and clauses. The examples below show the simplified syntactic positions of the Akuapem Twi ideophone;

[8] Ewe is also a Kwa Language like Akan and Ga. The phonological structures of these languages are totally different but for ideophones, it is worth to note that they share some common phonological structure. In the same way, the Ghanaian Sign Language is different from the Adamorobe Sign Language but some highly iconic structures are revealed in the same way in the two languages.

3. Ɔ-sereɛ *kwaakwaa*
   3SG SUBJ-laugh IDEO
   *He/she laughed IDEO*
4. *Kwaakwaa* na ɔ-sereɛ*
   IDEO and 3SG SUBJ-laugh
   *IDEO and he/she laughed**
5. *kɔkɔɔkɔ*
   *Knocking* (IDEO)
6. *hwimhwim* adeɛ kɔ *srɔsrɔ***.**
   IDEO (swiftly) thing go IDEO (swiftly)
   *Swiftly gained things are lost swiftly*

Example 4 is not acceptable in Akan. In example 6, *hwimhwim* is the adjective that modifies the noun *adeɛ* and *srɔsrɔ* is the adverb that shows how *hwimhwim adeɛ* moves.

Ideophones also "tend to be syntactically independent in the clause and carry special sentence stress on intonation pattern, and are used only in affirmative declarative utterances" (Ameka 2001:26).

### 2.5.3 Semantics of the Ideophones

Every ideophone in Akan has meaning attached to it. The meanings that are attached to it are expressive because the sounds of the ideophones are iconic to their meanings. "Expressives are representations of the psychological inner state of affairs of the speaker either to himself or to the addressee" (Agyekum 2008:103). When ideophones act as verbs, they depict an action; when they act as adverbs and adjectives, they modify the verbs and the nouns. Below are some examples;

7. Kwaku nom-m nsuo no *gunaguna*
   Kwaku drink-PST water DET IDEO.
   *Kwaku drank the water gunaguna (IDEO).*
8. Nipa *bagyabagya* wɔ abonten hɔ
   People IDEO at street there.
   *There are a lot of people in the street.*

In 7, *gunaguna* is an adverb that modifies the verb *nom* and in 8, *bagyabagya* is the adjective that qualifies the noun *nipa. Gunaguna* is the sound that water makes when it enters the throat and *bagyabagya* is the sound of a movement of a crowd.

### *2.5.4 Prosody of Ideophones*

Prosody is the "rhythm, stress and intonation of speech" and it "reflects the various features of the speaker or the utterance: the emotional state of the speaker; the speech act form of the utterance (statement, question, or command); the presence of irony or sarcasm; emphasis, contrast, and focus; or other elements of language that may not be encoded by grammar or by choice of vocabulary"[9]. Nespor 2010 (quoting Mampe, Freiderici, Christophe and Wemke 2009) stated that even the cries of new born babies are influenced by the prosody of the maternal language. Thus prosody plays an important role in the acquisition of language. In language acquisition, prosody is part of the structures that are acquired and as stated by Nespor (2010), it is possibly one of the important things to acquire in adult second language learning.

The prosody of the ideophones looks at the tone, the pitch, the rhythm and the stress patterns of ideophones. Generally, Akuapem Twi (Akan) ideophones are acquired with their individual prosodic qualities. This means that the intonation, rhythm, pitch and stress are not the same for all the ideophones. Whereas some ideophones have high tones, some have low tones, others are rhythmic and still others do not have any special rhythm. The ideophones that appeal to the emotions of the listeners make a great use of prosody in their presentation. Thus the high and low tones all contribute to the emotional status of ideophones. (This is similar to the nonmanual markers of the AdaSL. This thesis will not mark tones on the ideophones).

### *2.5.5 Acquisition of ideophones*[10]

In child language acquisition, one of the biggest questions is; *Is there a time for which structures are acquired?* In phonology, we posit that unmarked sounds are the first to be acquired by children and marked sounds tend to be acquired later. The child is never taught that *eat* is a verb but he or she unknowingly learns the language with all the parts of speech before finally learning the distinctions in school. Lillo-Martin (2008:241) reports that "the general path of language

[9] http://en.wikipedia.org/wiki/Prosody_%28linguistics%29 (edited)

[10] This thesis did not investigate into the acquisition of the AdaSL by the native and the hearing signers. Lillo-Martin, D. (2008) and Baker, A., & Woll, B. (2009) provide information on the acquisition of sign language.

acquisition is similar for signed and spoken languages". Ideophones are that part of a language which is learnt as the person acquires the language. It was difficult to get information from the informants during the fieldwork on when and how they acquired the ideophones. Most of the informants claimed that as far as they could remember, they were using ideophones subconsciously and others also claimed that they picked the ideophonic sounds from the environment as they heard others use them. The key thing here is that the acquisition of the ideophones is part of the subconscious means of acquiring words in a language. The ideophones are used by Akuapem Twi speakers in their daily conversation. Thus the environment can also be a trigger for the acquisition of the ideophones.

### *2.5.6 The roles of vowels in the Ideophones*

As stated earlier, ideophonic words are highly iconic and this is contributed by the vowels that are used. The vowels used in the Akuapem Twi (Akan) ideophones are sometimes an indicator of iconicity. The oral vowels of Akan are [i, ɪ, e, ɛ, a, æ, u, ʊ, o, ɔ] (cf. Dolphyne 2006) and these vowels are classified according to the part of the tongue, height of the tongue and the position of the lip during production. On the Akan vowel chat, the front vowels are [i, ɪ, e, ɛ] the central vowels are [a, æ] and the back vowels are [u, ʊ, o, ɔ]. The back vowels are all rounded and the front and central vowels are unrounded. The vowels [i, ɪ, u, ʊ] are high vowels and they are close; [e, o] are half close vowels, [ɛ, ɔ] are half open and [æ, a] are low vowels and they are open.

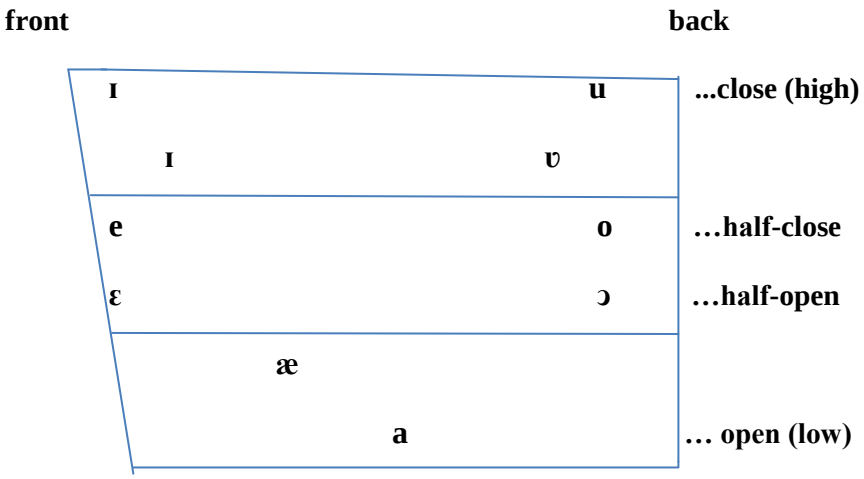



**Fig. 2.3 The Akan vowel chart**

For ideophones that depict size and shape, the use of vowels also add an additional iconic identification. Size and shape ideophones with vowels that are rounded can depict a round object or heavy objects. For instance, ***krukru****wa* is a small rounded object (-*wa* is the diminutive suffix for small or a little part of an entity that has a bigger part). ***Krukrudu*** is the Akan ideophone for something huge or massive. Front and central open vowels in size and shape ideophones usually depict something large, big, multitude, flat; examples are *kakraa* (big), *manyamanya* (overcrowded people), *bɛbrɛɛ* (multitude), *tɛtɛɛtɛr* (flat) etc. Front close vowels when followed by front open vowels in an ideophonic word represent slim, lanky etc. for instance *fĩaa*, *tĩaa*, *hwĩaa* etc. The ideophones for smell usually have a nasalised vowel. Examples are; *nyãn* (fetid), *kãnkãn* (bad smell). According to Ofori (2009:29), vowels play a major role in the analysis of Akan ideophones.

**2.6 Differences between sign and spoken languages[11] (The AdaSL and Akuapem Twi)**

Sign and spoken languages share a lot of differences that distinguish them. Some of these differences have been elaborated below.

*Articulatory parameters*-The aspects that come into play for the production of speech in spoken language can be grouped into the place of articulation, manner of articulation and voicing. For sign language, the articulatory parameters are the handform, location, orientation and movement. Whereas the parameters of speech relies on the sub-glottal, supra-glottal and the oral and nasal cavities, sign languages rely on the hands, arms, head and trunk in the creation of concepts.

*Medium/Channel (perceptual differences)*-Spoken language is perceived through the auditory system that depends on the ear but sign language relies on vision, which is the eye.

*Iconicity and Gestures*-Although both sign and spoken language use iconic symbols and gestures, sign language is believed to be more iconic and gestural than spoken language. In spoken language, iconicity can be realised in sound symbolism like ideophones (onomatopoeia), in the syntax and also some discourse and pragmatic functions. In the GSL, concepts related to cognition are signed at the head, emotive words usually have some relation to the chest; in the LIS concepts with flat surfaces (TABLE, FLOOR, CARPET) are signed with a flat handshape.

[11] This part was cited from my undergraduate thesis (Edward 2012) with slight modification.

*Lexical differences*-Word shape in spoken language and sign language are not the same. Pronunciation in spoken languages tends to rely on the number of morphemes within a word. Sign languages, although having the same spelling as spoken language, do not put much emphasis on morphemes and syllables to sign.

According to Brentari (1998:59), "the visual/gestural or auditory/vocal mode of communication infiltrates the abstract phonological system, causing differences in the frequency of phenomenon occurrence, as well as differences due to the signal, articulatory or perceptual properties of signed and spoken language".

## 2.7 The Deaf Culture

The Deaf Culture describes the beliefs, behaviors, ethics and shared values of communities that are affected by deafness and use sign language as their means of communication. Deafness is usually not seen as a disability in the Deaf Culture. The Deaf Culture includes family of the Deaf, sign language interpreters and those who are hard of hearing. The Deaf Culture varies from one place to another and there is diversity in the things that are acceptable in each culture. However, all the Deaf Cultures in the world are against discrimination of the Deaf. In the Ghanaian Deaf Culture[12], it is unacceptable to pass through deaf people when they are communicating because this will cause a distraction in the flow of communication since the Deaf listen with the eyes and not the ears. Also, deaf children are normally kept in boarding institutions. In Adamorobe, the Deaf used to marry each other until their former chief instituted a policy to curb the genetic hereditary deafness by encouraging the Deaf to marry hearing people (cf. Nyst 2007, Kusters 2012). However, during my data collection period, I realised that it is easy for the deaf females to get hearing men to marry but the deaf males mostly marry deaf females (or remain unmarried).

### *2.7.1 The Psychology of Deafness*

There is a tendency for the Deaf to feel sidelined and be part of the minority part of society. In Vernon & Andrews' work on the Psychology of Deafness, they stated that "Deafness is a psychological variable which influences the behavior of deaf persons such that their life

[12] This section is important because the community of study has a high incidence of hereditary deafness. The *Deaf* refers to the cultural variable and the *deaf* refers to the medical situation.

experience differs in some consistent ways from that of those who are not deaf" (Vernon & Andrews 1990:197). Thus Vernon & Andrews agree that there are certain behavioral influences that deafness has on people suffering from it. However, it is also worthy to note that the Deaf are not (necessary) dumb because the definition for dumb includes muteness and stupidity (lacking intelligence). The Deaf are not stupid and most of them are more intelligent than some hearing people. Deaf people like King Jordan (first Deaf President of Gallaudet University, US), Andrew Foster (Founder of many Deaf schools in Africa) etc. have contributed immensely to the Deaf community.

In the Adamorobe community, the hearing people have learnt to stay with the Deaf. The Deaf are called *mumu* in the Akuapem Twi and this term is taken as derogatory by the people within the Deaf Culture (especially when it is attached to the name of the deaf person, e.g. *Esi Mumu*).

### 2.8 Chapter Summary

In this chapter, we discussed the linguistics of both sign language and ideophones. We also addressed the features of a natural language and concluded that both the AdaSL and the Akuapem Twi are natural languages that are realised on different modalities. Furthermore, the differences between sign and spoken languages were discussed. The chapter concluded with the Deaf Culture and the psychology of deafness.

In all, we have identified the AdaSL and the Akuapem Twi ideophones to have a worthy linguistic classification. The next chapter will give an in-depth analysis of the theories behind iconic words in sign and spoken languages. Also, a detailed description of the data taken at the fieldwork will be given in chapter 5.

# CHAPTER 3- THEORETICAL FRAMEWORK AND RELEVANT RESEARCH ON ICONICITY

## Introduction

Language is an identity marker in many African cultures and in Ghana, people are identified based on the language(s) they speak or the tone with which they speak other languages which are not their mother tongue. The people of Adamorobe have a lingua franca which is the Akuapem Twi and other minority languages. The Adamorobe Sign Language (AdaSL) is one of the minority languages of Adamorobe and is used by the deaf people and the hearing signers in the community.

Researchers like Nyst (2013, 2007), Okyere & Addo (1994), Frishberg (1987) etc. have worked on the Adamorobe Sign Language. For this thesis, the focus is not only on the Adamorobe Sign Language but also on the major spoken language in the community which is the Akuapem Twi (ideophones). Iconicity in language is a trending topic in linguistics; several linguists have discussed several sides of this issue. Iconicity is revealed in the Adamorobe community through their languages. The Adamorobe Sign Language and the ideophones of the Akuapem Twi have iconicity revealed in them but the realisations are different. The AdaSL reveals its icons based on the hand configurations that are produced in communication and the Akuapem Twi realises its iconicity through sound patterns and other discourse and pragmatic levels. This section of the work describes the relevant theories that were consulted for this research work and examples from other languages. It also presents a detailed description of the concept of iconicity in language and some emphasis is also laid on the concept of arbitrariness in human language.

## 3.1 Seven forms of Iconicity in Language: The Haspelmath Approach

Martin Haspelmath[13] a German linguist outlined seven forms of iconicity in language. These different forms (with my explanations) are as follows (Haspelmath 2003:2).

### Iconicity of sound

This is the basic phenomenon of iconicity in spoken language; the creation of sounds that share a resemblance with the entity that the speaker has in mind. In talking about the iconicity of sounds,

[13] He is a Professor at the Max Planck institute for Evolutionary Anthropology.

one major example is onomatopoeic words. These are words that have "sounds similar to the denoted sound" (Haspelmath 2003:2). Examples of onomatopoeic words are; *hiss (the sound that snakes make), boom (the sound of a fallen object), meow (the cry of a cat), twitter (the sound made by birds*). Phonestheme is another concept of iconicity of sound which deals with the "systematic pairing of form and meaning in language[14]". Examples of phonesthemes that were given by Perniss et al (2010:8) include;

*-ack* whack, crack (denoting forceful)

*gl-* glow, gleam, glitter, glint (denoting light of low intensity)

*wr-* write, wriggle, wrist (denoting twisting). The focus is on the phonology and not the orthography and phonologically these words begin with [r]).

Another broad concept under the iconicity of sound is ideophone. Agyekum stated that "ideophones are words with a picturesque connotation … and they operate in a situation where the signified event and the linguistic signifier coincide" (Agyekum 2008:101). Some examples of Akan ideophones given by Agyekum are;

*waka-* quickly (the sound that one hears when a person rises up instantaneously from his seat either angrily to react to irritating situations or to hurriedly save a dangerous or emergency situation. (cf. Agyekum 2008:112))

*pudwɛɛ pudwɛɛ-* gobble (indicates the sound that comes out as somebody quickly and forcefully eat some food out of extreme hunger. (cf. Agyekum 2008:109))

Thus, like the sound symbolism realised in onomatopoeia; phonesthemes and ideophones also present an iconic representation of the word.

**Iconicity of sequence**

According to Diessel, "another factor that seems to influence clause order is iconicity. The notion of iconicity comprises two basic types, diagrammatic iconicity, which is concerned with structural (or relational) similarities between the sign and the referent, and imagic iconicity, which is concerned with substantial similarities between the sign and the referent e.g., sound symbolism (Diessel 2008:468)". Givón also elaborated on the notion of iconicity in the sequence of words in the order of words and the assignment of topic. To Givón, one always "attend first to the most urgent task" in the word order (Givón, 1985:199). Thus in the more unmarked cases,

[14] Quoted from; http://en.wikipedia.org/wiki/Phonestheme

the topic precedes the comment. This is the basic speaker strategy whereas it is least expected that the comment will precede the topic. Perniss et al also argued that "the principle of iconicity holds that the sequence of forms conform to the sequence of experience" (Perniss et al 2010:7). This confirms what Haspelmath stated; "sequence in speech is identical to sequence in actions" (Haspelmath 2003:2).

**Iconicity of adjacency**

According to Haspelmath, "connected concepts are expressed by adjacent constituents" (Haspelmath 2003:2) and this is a demonstration that language is iconic. Fisher quoted Givón's meta-principle of proximity that "the closer two concepts are semantically or functionally, the more likely they are to be put adjacent to each other lexically, morphotactically or syntactically" (Fischer 2006:5, cf. Givón 1985:202). This is also a proof that there is iconicity in adjacent linguistic structures. The following examples were taken from Givón (2001:281);

1. She went to see a movie she liked with a friend.
2. She went to see a movie with a friend she liked.

In example 1, she *liked the movie* but not necessarily the friend. However, in example 2, *she liked the friend* and not necessarily the movie. One other linguist who has worked on iconicity of adjacency is Joan L. Bybee (1985).

**Iconicity of scope**

Newmeyer in his paper on iconicity and generative grammar stated that earlier elements take wider scope in the order of words and morphemes. Newmeyer commented that " it seemed clear that the relative surface order of 'logical' elements-quantifiers, negative particles, certain modals, and so on-is involved in conveying their logical scope on the preferred reading" (Newmeyer 1992:768). The iconicity of scope is realised greatly in the syntactic relation among words in a sentence. To Newmeyer, "the precise principle involved in the statement of scope relations has turned out to be more complex than simple precedence, though no less iconic" (Newmeyer 1992:768). Examples quoted from Newmeyer's work are;

3. Many men read few books.

4. Few books are read by many men.

"In the preferred interpretation of 3, *many men* precedes *few books* and has wider scope over it; precisely the opposite is true in 4. Thus it seemed clear that the relative surface order of 'logical'

elements … is involved in conveying their logical scope on the preferred reading" (Newmeyer 1992:768).

**Iconicity as syntagmatic isomorphism**

Haspelmath expresses this as "one-meaning-one-form", i.e. no unexpressed meanings, no meaningless forms (Haspelmath 2003:2). Isomorphism is the idea that there should be a one-to-one correspondence between the linguistic code on one hand and the perceived experience on another. Givón defines isomorphism as the "motivated, non-arbitrary connection between the form and the meaning" (Givón 1985:188) and thus there is a relationship between the structure, which is the syntactic code and the function or the meaning that it assigns. In this way, it is believed that the structure of clauses also align iconically to the meanings that they convey. Most iconic signs in both sign and spoken languages are isomorphic.

**Iconicity as correspondence of markedness/complexity**

Furthermore, Haspelmath classified iconicity as correspondence of markedness and complexity. Thus marked/complex meanings receive marked/complex coding. Quoting Givón's iconic meta-principle; "all other things being equal, a coded experience is easier to store, retrieve and communicate if the code is maximally isomorphic to the experience" and this makes "categories that are cognitively marked to be structurally marked" (Givón 1985:188).

**Iconicity of cohesion**

Haspelmath stated that there is iconicity between distance and independence (Haspelmath 2003:2), i.e. linguistic cohesion also mirrors conceptual cohesion. This implies that the speakers or signers usually mirror their ideas on the structure of their information. Siding with Newmeyer "it is important to emphasise that the principle of iconicity of distance entails that conceptual distance corresponds to linguistic ( i.e. structural) distance, not merely physical distance" (Newmeyer 1992:761).

### 3.2 Arbitrariness or Iconicity?

Over the centuries, the general idea about language was the fact that it is arbitrary. Perniss et al call this view as the *received view* (Perniss et al 2010:3). The existence of different languages was the major reason for this mindset and the motivation was that *a rose by any other name is*

*still a rose*[15]. This idea is generally true for languages; it is very difficult to find a one-to-one connection between a linguistic entity and the thing it refers to. George Yule stated that "there is no natural connection between a linguistic form and its meaning" and nothing in the word **fall** points to its meaning (Yule 1996:21). "The sound of the spoken word dog, for example, has little in common with the meaning of the word. This great distance in conceptual space and the resulting incommensurability of the semantic and phonological poles is the basis for *l'arbitraire du signe*" (Wilcox 2004:122). I *partly* agree with the proponent of arbitrariness of language because, most of the time the linguistic features give no clue to the meaning of the word, whether spoken or signed. The receiver has to be a part of the speech community to understand what the speaker or the signer is communicating. The strangest thing about human language that we all know is the fact that linguistic effort has to be put in place for one to be able to communicate with people from different linguistic backgrounds. This makes our language unique from other entities within our species. A Korean dog that is taken to Norway will still make the same sound just as the Norwegian dogs; birds that fly across countries do not need to learn the *bird language* of their new abode, the sounds are just the same. An African elephant does not need to learn English to communicate with an Elephant in England and the list goes on and on. These instances are just there to show us that human language is different from Computer or Animal language and the key contributor to these differences is the fact that *it* is arbitrary.

However, there is enough evidence in human language (spoken and signed) to show that a good degree of icons are used during communication.

5. He *banged* the door at us because we *cracked* his bottle.

The sentence above contains two verbs that even the novice linguist will call onomatopoeic sounds; *bang* and *crack*. This was the major evidence of iconicity in spoken languages (making the sound of the object the name of the object of motion). However, there is considerable evidence now on the level of the phrase, clause and sentence structure that shows that iconicity exists in human language. Onomatopoeic words in (most) languages of the world are a clear demonstration of icons in language. Sign language, a wonderful silent language of the hands, face and body that is rich with nuances, emotions and grace (Costello 1995) also demonstrate a

[15] Edited quote by William Shakespeare in the drama *Romeo and Juliet.*

good deal of iconicity. This beautiful and expressive visual-gestural language has a great deal of icons that are used in communication.

Yule stated that "icons are symbolic representations which are physically similar to the objects represented (Yule 1996:207)". In simple terms, one describes iconicity as the relationship between a language form and what it represents. Thus an icon is a pictorial representation of an entity which could also be an idea. Dressler et al 1987 (cf. Haspelmath 2003:2) stated that icons are most natural signs because they are easier to process.

### 3.3 The Saussurean and the Peircean Views of Language

"The discussion on what is iconic and what is arbitrary in language is deeply rooted in the history of language studies (Gensini 1995:3)". The above quote indicates that in the history of linguistics, there have been many issues that have been raised to accept or reject arbitrariness or iconicity of language. Aristotle, Plato, Saussure, Peirce and many others had their stand in this issue and for this section; we will look at the stands of Saussure and Peirce on the issue of arbitrariness and iconicity.

#### *3.3.1 Ferdinand Saussure*

Ferdinand Saussure is a 19th Century linguist (1857-1913), and according to Holdcraft, Saussure made a claim that "a language state is a socially constituted system of signs which are quite arbitrary and which can be defined only in terms of their relationship with the system" (Holdcraft 1991:6). Signs here refer to the words or symbols that are used for communication. The European structuralist Saussure theorised that language is arbitrary and that the object or the sign of the linguistic form does not give a one-to-one mapping of the form and meaning. To Holdcraft, "undoubtedly, Saussure's main claim to our interest is his concern with the fundamental questions about the nature of language and the methodology of linguistics, and above all with the question of the nature of the object of the linguistics itself" (Holdcraft 1991:6). Saussure introduced the signifier (image) and the signified (concept) and said that the two together make up the sign. Below are the two basic principles[16] that Saussure comes up with;

a. The arbitrary nature of the sign: He stated that the sign is arbitrary because the bond between

[16] The two principles were adapted from http://olivia1990.hotglue.me/data with slight modification to suit this work.

the signifier and the signified is arbitrary and that the link between the idea and the sound (the signified and the signifier) is a matter of societal convention.

b. The linear nature of the signifier: Saussure also stated that the signifier is of linear nature because the auditory signifiers have at their command only the dimension of time (also quoted in Tai 1993:156).

We can see that Saussure identified the linguistic marker as an arbitrary entity which has no relationship to the concept or the ideas that are represented in the linguistic markers. Thus as Yule put it; "there is no natural connection between the linguistic marker and the meaning that is conveyed" (Yule 1996:21). The orthography in itself does not give a clue to interpretation or the meaning of the word. Orthography for the ideas and concepts are societal conventions and norms, and that is why Shakespeare stated in *Romeo and Juliet* that *a rose by any name will still smell sweet*. Following the Saussurean tradition of arbitrariness, then it is quite easy to give the claim that the arbitrariness of language contributes to language diversity. The same concept or entity is referred to by different names in many languages. Furthermore, looking at the linear nature of the signifier as stated by Saussure, the auditory inputs are seen as time bound. Thus we have a particular time or period to receive the input and after that it disappears. Hockett refers to this as the rapid fading, i.e. speech signals are transitory (Hockett 1963:9).

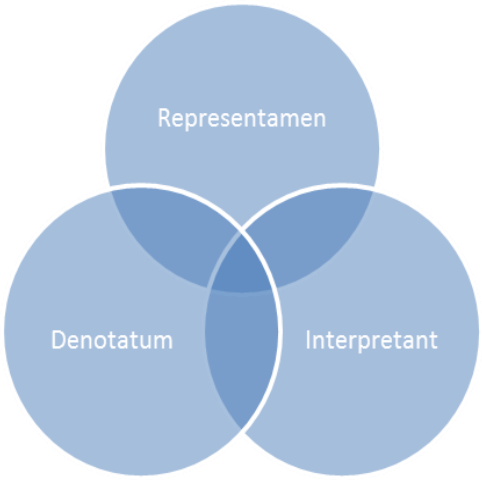
### *3.3.2 Charles Sanders Peirce*

Charles Sanders Peirce the American linguist introduced the concept of iconicity in language through his semiotics (Peircean semiotics[17]). Peirce's semiotics and iconicity was brought to the forefront by Roman Jakobson in his 1965 Essay "Closing Statement; Linguistics and Poetics" (Jakobson 1965:351) and challenged the existing Aristotelian and Saussurean notion of language being arbitrary and thus became a pioneer of iconicity. In a review by Floyd Merrell, he stated that "the Peircean sign has been defined as something that relates to someone else for someone in some respect or capacity" (Merrell 2001:8). The Peircean sign has three parts; the *representamen*, the *object (denotatum)* and the *interpretant* (Pietrandra & Russo 2002; Merrell 2001) and these three parts contributes to the iconicity that is revealed. The representamen is the expression, the denotatum is the semiotic object and the interpretant is the meaning (cf. Merrell

[17] http://plato.stanford.edu/entries/peirce-semiotics/

2001). The Peircean contribution to linguistics is revealed in the works of Givón (1985, 1995), Engler (1995), Dressler (1995), Gensini (1995), Stjernfelt (2006), Merrell (2001) etc. and each of these linguists deliberated on issues about the iconic part of language.

To Engler (1995:35), "the iconic nature of the sign is dominant over the arbitrariness in the consciousness of the speaker" and as such iconicity is prevalent over arbitrariness in language. Looking at the Peircean representation of the linguistic icon and comparing it to the Saussurean view; I came up with the diagrams below;



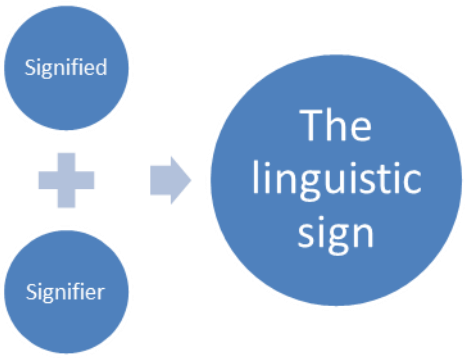




**Fig.3.1 Peircean iconicity** **Fig.3.2 Saussurean arbitrariness**

On the Peircean iconicity map (Fig.3.1), each of the three has a relationship with the other. Thus the representamen which is the expression is carried over by the denotatum and the interpretant. This image is different from the signified and the signifier of Saussure which do not have any relationship to the denoted object (Fig. 3.2). The Peircean icons have resemblance to the semiotic object as stated by Merrell (2001) and these resemblances can be high, medium or low. Baker-Shenk stated that there could be an *arbitrariness-iconicity* continuum, i.e. the level of resemblance or the similarity can differ (Baker-Shenk 1991:37). The relationship between the Peircean sign is what makes it iconic; the representamen, the denotatum and the interpretant "enjoy the company of the other" (Merrell 2001:29).

Peirce also presents what Merrell calls *a tale of three signs;* icons, indices and symbols. Icons have a relationship of resemblances, indices have "actual or imagined connection" and the

symbols are arbitrary (Merrell 2001:31). Unlike, Saussure, Peirce actually present the fact that language has both iconicity and arbitrariness.

The focus of this thesis is on iconicity in two languages and as such the Peircean ideology will be carried through the remaining pages of the work. There are also arbitrary concepts in the two languages that will be consulted for this work. However, the main focus is on the notion of iconicity.

### 3.4. Iconicity in Language (Signed and Spoken)

Iconicity in language is studied for both sign and spoken languages. Current research works by Pietrandrea & Russo (2002), Perniss et al (2010) etc. looked at cross-linguistic iconicity in sign and spoken languages. For this thesis, the cross-linguistic iconicity will be taken from the Adamorobe Sign language and the ideophones of Akuapem Twi (Akan). Following the Peircean tradition of iconicity in language, some iconic traits of the AdaSL and the ideophones of Akuapem Twi will be identified and discussed. The discussion on the iconicity of language also reveals that not all linguistic signs are iconic. However, "the comparison between verbal and signed languages contributes to this discussion substantially by highlighting two facts. Firstly, with the exception of a few interesting instances almost all the examples of iconicity of verbal languages described …fall into the class of diagrammatic hypoicons. Secondly, the 'banishment' of imagic iconicity is not imposed by the intrinsic nature of language, but is to be ascribed to the nature of the phono-acoustic medium" (Pietrandrea & Russo 2002:3).

According to Peirce "a sign may be iconic, that is, may represent its object mainly by its similarity, no matter what its mode of being. If a substantive be wanted, an iconic representamen may be termed a hypoicon" (cf. Farias, P., & Queiroz, J. 2006:290). Peirce presents three types of hypoicons: images, diagrams and metaphors (cf. Pietrandrea & Russo 2002:2). Images "partake of simple qualities of their object; diagrams represent the relations …one thing by analogous relations in their own parts" (cf. Pietrandrea & Russo 2002:2) and metaphors are "device of the poetic imagination and the rhetorical flourish—a matter of extraordinary rather than ordinary language" (Lakoff & Johnson 2008:3).

The means of production also contribute to the fact that sign languages are more *imagistic*[18] and spoken languages are more diagrammatic. "Imagistic iconicity is a natural resemblance between the sign and the object it refers to in the world" (Sallandre 2007:2). Perniss stated that "in signed language, a direct relationship between form and meaning can be seen on the lexical level and in the use of morphologically complex predicates" (Perniss 2007:3). The Akan[19] language is highly iconic in words, phrasal, clausal and sentence structure. It is possible to identify the meaning from just doing a linguistic analysis of some of the words (however not all the Akan structures are iconic). There are three levels of iconic traces in verbal languages in relation to the diagrammatic iconicity: paradigmatic iconicity, syntagmatic iconicity and the pragmatic iconicity.

*Paradigmatic iconicity* according to Pietrandrea & Russo (2002) has two well-known principles: One-Form-One-Meaning Principle and the Iconicity of Lexical Categories Principle. There is nothing in the word *frown* in English that shows that it has a connection to the face; i.e. it is arbitrary, not iconic. The closest a non-English speaker can guess is that it is similar to words like *brown* and *crown* and as such they are minimal pairs. In Akan, some words are created through compounding of different words and combination of different meaningful morphemes. Thus it becomes possible for some iconic coding to be mapped. The examples below show the difference between some words in English and Akan;

| | | | |
|---|---|---|---|
| **English** | shame | proud | wink |
| **Akan** | animguase | ahomemasoɔ | anikyiɛ |
| **Gloss** | *"face lie down"* | *"self-raise up"* | *"eye turn"* |

The above examples show that the Akan words are built up by combining morphemes that carry some aspect of the meanings of the words. Comparing the gloss for *shame* and *proud* in Akan to Lakoff & Johnson's orientational metaphors, we can say that "happy is up and sad is down"

[18] Imagistic iconicity is mostly used for sign languages while spoken languages are seen as imagic. Imagistic iconicity deals with visual iconicity (Sallandre 2007) and imagic iconicity deals with mimicking of sounds in the real world (Dingemanse 2011a). However, to avoid confusion (since this work uses both sign and spoken languages), imagic iconicity will be used to refer to visual iconicity in sign language and mimicking of sounds in spoken languages. Imagic iconicity was also used by Pietrandrea & Russo (2007) and Dingemanse (2011a:166) to refer to the iconicity revealed in sign and spoken languages.

[19] Akan will be used interchangeably with the Akuapem Twi since the Akan is the mother language and the Akuapem Twi is a dialect. However, most of the examples will come from the Akuapem Twi dialect of Akan.

(Lakoff & Johnson 2008:15). This is highly iconic in because "drooping posture typically goes along with sadness and depression, erect posture with a positive emotional state" (Lakoff & Johnson 2008:15).

Some of the words borrowed into the Akan language usually undergo a direct translation of their meanings. Below are some few examples:

| **English** | *Fridge* | *radio* | *spectacles (glasses)* |
|---|---|---|---|
| **Akan** | ɛnsokwankyiaba adaka | akasanoma | ahwihwɛ enyiwa |
| **Gloss** | *"snow box"* | *"talk bird"* | *"mirror eye"* |

These instances are also experienced in a large way in most African languages, i.e. both signed and spoken.

*Syntagmatic iconicity* and *pragmatic iconicity* are also found in Akan and they deal with morphological constructions and discourse pragmatic functions respectively. Following Givón's iconicity in word order and topic assignment (Givón 1988:252), we usually "attend first to the most urgent task" in a sentence. This clausal level iconic coding is also realised extensively in Akan. Topicalisation and focus marking in sentences in Akan tend to lead the receiver to detect the most urgent task. The concept of serialisation in Akan is another way of indicating iconicity. For instance;

6. Gyasiba nya-a sika na o-si-i dan na ɔ-tɔn-ee
   Gyasiba get-COMPL money and 3SG SUBJ-build-COMPL house and 3SG SUBJ-sell-COMPL
   *Gyasiba got money and built a house and sold it.* (cf. Osam 2003:16)
7. Kofi kyer-r ewi no bor-r no
   Kofi catch-COMPL thief DEF beat-COMPL 3SG OBJ
   *Kofi caught the thief and beat him.* (cf. Osam 2003:17)

In the two examples above, we also identify the most urgent task; in 6, Gyasiba had the money before she built the house, and the house was built before it was sold. In 7, the thief was first caught by Kofi before he was beaten. Thus, serialisation, topicalisation and focus marking are interconnected in Akan and these are iconic, coding consecutive actions or events.

Iconicity in sign languages rely more on the imagic iconicity, but Pietrandrea & Russo also stated that "it is widely acknowledged that the grammatical structures of signed languages contain examples of diagrammatic iconicity" (Pietrandrea & Russo 2002:5). The instances of diagrammatic iconicity in sign language that were mentioned by Pietrandrea & Russo (2002) are affixation processes that give derivational and inflectional words. However there is more imagic iconicity in sign language because "grammatical iconicity is revealed to be just as ubiquitous among signed languages as it is among spoken languages—indeed, because visible movements of hands have even more semiotic potential than the predominantly invisible movements of vocal tract articulators, signed languages are even more richly iconic than spoken languages" (Wilcox 2004:121).

The fact that sign languages rely of the hands and the face and other bodily gestures also makes it very imagic in its iconicity. There is bound to be some motivation behind some of the words, and sign languages are more picturesque (visual iconicity) than spoken language. In this case, it is undoubtedly easier to identify *lexical fields* vividly in sign languages than in spoken languages. It is possible to assume that (sometimes) the direction of the hand configuration (handshape) contributes to the meaning of the sign. Lexical fields like the face and it parts, the chest etc. will give some signs that carry the meanings that we will expect.

In the GSL, the signs for THINK, KNOW, UNDERSTAND, FORGET, MIND etc. are all realised at the forehead and the signs for LOVE, FEEL, PLEASURE, HAPPY etc. are realised at the chest area (Edward 2014). The sign for HAPPY and SAD in the AdaSL always go with facial expressions, and "happy is jovial (up) and sad is down" (Lakoff & Johnson 2008:15, edited). The classifier systems in spoken languages also share a little resemblance to the lexical fields in sign languages. In Manderin (Chinese) certain morphemes are used to identify the category of a word. Examples are;

a. "three students": *sān* ***gè*** *xuéshēng*, literally "three [human-classifier] student"
b. "three trees": *sān* ***kē*** *shù*, literally "three [tree-classifier] tree"
c. "three birds": *sān* ***zhī*** *niǎo*, literally "three [bird-classifier] bird"
d. "three rivers": *sān* ***tiáo*** *hé*, literally "three [long-wavy-classifier] river"[20]

[20] Examples of classifiers in spoken language taken from: http://en.wikipedia.org/wiki/Classifier_%28linguistics%29

### *3.4.1 Iconicity in sign language*

Languages that are communicated through the coordinated movement of the hands and the addition of nonmanual markers are seen to be very iconic. According to Pietrandra & Russo, "signed lexemes are often made up of formal features which are visually motivated and are thereby iconic. Their visual motivation is not idiosyncratic; it derives from regularities at the level of the form of formational parameters. Handshape forms, for example, often relate to features of a sign's meaning via reference to some particular visual form" (Pietrandrea & Russo 2002:5). Thus iconicity is highly expected in sign languages. However, sign languages have both iconic and arbitrary forms. Yule stated that "even if some signs have traceable iconic sources, their actual use … does not depend on the signer thinking of the iconic source in order to interpret the sign" (Yule 1996:207).

Iconicity is a general feature of all sign languages and I will term this as ***general iconicity***. General iconicity is seen in the lexemes (signs) that are iconically motivated. The production of sign language is more gestural, and most studied sign languages of the world have more *iconic motivated* elements than arbitrary elements. This general iconicity can further be studied based on the degree, or the realisation of the concept. In the Adamorobe Sign Language, some of the iconic signs are represented based on the following;

a. How the entity feels. e.g. MATTRESS, AIR etc.
b. How the entity is prepared. e.g. some types of food (FUFU-pounding, BANKU-stirring) etc.
c. How they are consumed. e.g. Some types of food (SOUP) etc.
d. The size and the shape. e.g. BARREL, BENCH, WINDOW etc.
e. How they are used. e.g. CANOE (paddling), MATCHETE (weeding) etc.
f. How they are acted or done (demonstration). e.g. ARREST, CRY, STEAL etc.
g. Certain peculiarities or uniqueness (metonymy). e.g. SOLDIER (uniform), BIRD (wings) etc.

The relationship between the visual entity and the cognitive perception is represented through icons in sign languages. In the Adamorobe Sign Language, the sign for a BIRD is an iconic image of a bird in flight. Here, the signer uses the accepted sign which is a depiction of common feature of a bird (their wings and the ability to fly). This creates a pictorial image in the mind of the receiver. There are levels or degree in the iconic realisation; thus some concepts are higher in

iconicity than others (Baker-Shenk 1991:37-38; Willems, K., & De Cuypere, L. (Eds.). 2008:68). One focus of this thesis is to present the levels of iconicity as revealed in the iconically motivated signs of the AdaSL and the ideophones of Akuapem Twi.

Some signs in sign languages create lexical fields; their means of realisation carries a simple iconic backdrop. In the GSL, the signs for THINK, KNOW, FORGET, UNDESTAND etc. can be seen as a lexical field of mental activity. All these concepts are signed on the forehead and they carry the same cognitive meaning. In the Italian Sign Language, Pietrandrea & Russo report that the concepts TABLE, FLOOR and CARPET have a common meaning of flatness (Pietrandrea & Russo 2002:3)

**Fig.3.3 TABLE, FLOOR and CARPET in the Lingua dei Segni Italiana (LIS) (cf. Pietrandrea & Russo 2002:6)**

The iconicity presented here is the flat surface of the signs for all the concepts that were presented. The standard sign for a HOUSE in the GSL and the ASL is the depiction of a roof of a house. The sign for SIT in the ASL and the GSL is a depiction of the two legs sitting on a flat surface. These signs are all gradable; thus whereas some are highly iconic and show the salient features of the entity being replicated, others are minimally iconic and they represent just a portion of the entity being replicated (synecdoche relation). Notwithstanding these levels of iconic rendering, the iconic signs have image-form-meaning-mapping relationship.

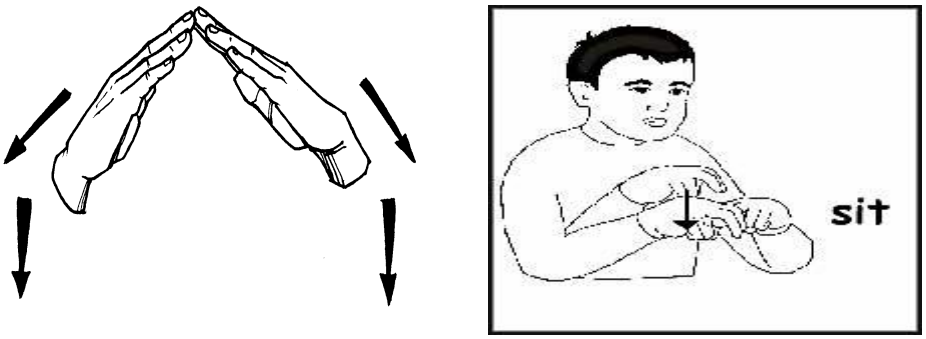



**Fig.3.4 HOUSE and SIT in the ASL and the GSL**

### *3.4.2 Iconicity in the Adamorobe Sign Language*

The AdaSL is not complex like most of the formal sign languages that are used around the world. First, the AdaSL is not a documented language that is used for formal businesses. It was believed to have been created by the Deaf in Adamorobe as far back as the 18th Century (Okyere & Addo 1994). However, since the deaf population has declined from 10% of the total inhabitant of the village (as at 1971) to 2% (as at 1999)[21], their language has now come under a serious threat (Edward, in progress). All the AdaSL informants that were videoed and interviewed for this research were deaf adults of Adamorobe and have not acquired formal education. Iconicity is revealed in several aspects of the lexical structures of the AdaSL.

Iconicity is generally revealed in the lexemes of sign languages. The language of the deaf can be a series of coordinated hand configurations and movements that tries to mirror the entity that is being described. *General iconicity* in the AdaSL is revealed in most of the lexical items. Naturally, people will differentiate men and women based on specific body traits. In the AdaSL, WOMAN (*ɔbea* in the Akuapem Twi) is signed with focus on the breast and MAN (*ɔbarima* in the Akuapem Twi) is signed with focus on the beard. For this thesis, the iconic elements to be focused on are those depicting size and shape, expressing time, denoting emotive and cognitive actions and verbal directionality.

On the iconicity in ***size and shape***, the sign structures were modeled on the shape and sizes of the entity that is being referred to. The use of classifiers in several sign languages of the world depicts the pictorial representation of the entity. The classifier shows the relationship between

[21] Cited from Nyst 2007.

the noun and the verb and they are created by combining different morphemes. Schembri (2003) talks about three types of classifiers in sign language. He outlines the size and shape classifiers, entity classifiers and handling classifiers. Size and shape classifiers describe the entity being referred to according to its size and shape. Entity classifiers describe the entity by its semantic category; that is, sitting, walking, running, in a plane etc. Handling classifiers describe the entity in terms of how they are handled. The size and shape classifiers can be used to refer to this part of the work. However, the signs for size and shape that were taken from the AdaSL are the standard signs that have iconic intent (BINOCULARS is an exception as will be discussed later in chapter 5. It was a sign that was created on the-spur-of-the-moment).

The ***expression of time*** in the AdaSL is also iconic. Alkoby stated that "there are two kinds of time signs in ASL (American Sign Language): Lexical Tense Markers and Time Adverbials. Lexical Tense Markers are lexically independent time signs, whereas Time Adverbials are time signs that function as adverbs. Most Lexical Tense Markers have corresponding Time Adverbials, which are morphologically related" (Alkoby 1999:4). In the AdaSL, there are Lexical Tense Markers and Time Adverbials and these together correspond to the expression of time in the language. "Time indicators in ASL are often called time signs. FINISH, WILL … are examples of ASL time signs. The FINISH sign is used to indicate past tense or actions that have been completed, while the WILL sign is often used to indicate future tense. ASL also uses present time signs such as NOW and TODAY (Alkoby 1999:3). Furthermore, "the time signs have a relative location on the time line, which agrees with their meaning" (Alkoby 1999:5); thus the past is behind and the present and future is in front and these are all deictic time.

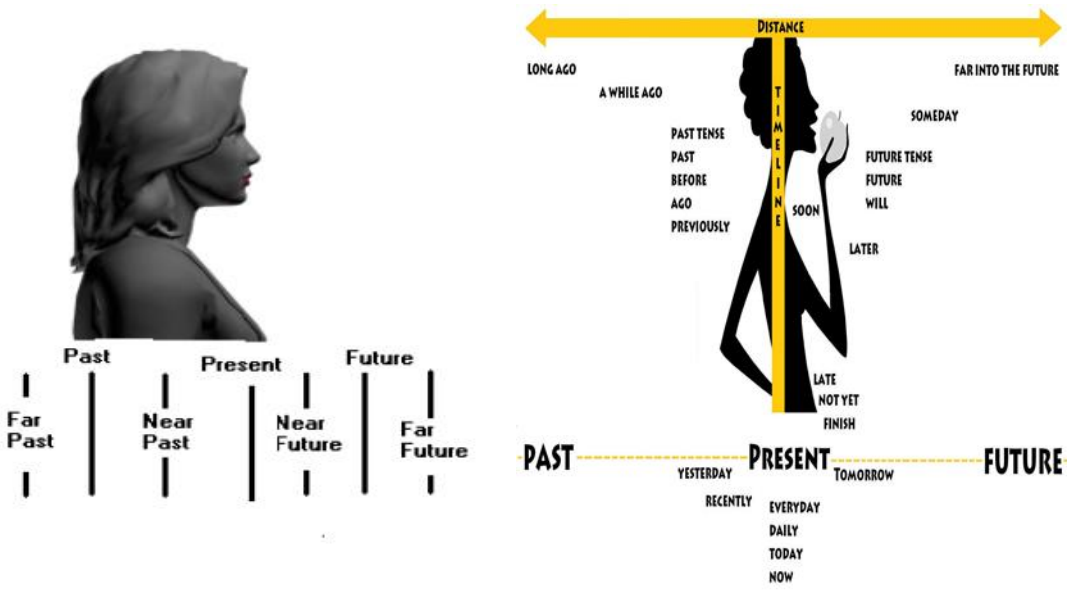



**Fig.3.5 The time line in sign language**[22]

***Emotive and cognitive*** words in the AdaSL are also iconic. People generally express their emotional states with other facial expressions and bodily gestures. It is expected that in a language that uses coordinated movement of the hands and the body, emotions and cognition will be manifested visibly. In the Ghanaian Sign Language, *Cognitive signs* are limited to the forehead and *Emotive signs* are limited to the chest area (Edward 2012). This is very iconic in that emotions are dealt within the heart which is located at the chest and cognition in the mind located at the forehead. Emotive and cognitive words in the AdaSL are always accompanied with facial expressions that also reiterate the point made by Lakoff & Johnson that "good is up, bad is down" (Lakoff & Johnson 2008:17).

***Verbal directionality*** is also another key feature of iconicity in the AdaSL. Most verbs in sign languages are directional and the direction of the signers hand is mostly dependant on the location. Movement from signer to addressee and from the addressee to the signer is usually dependant on the message being conveyed. The signer is always the deictic point in verbal agreement in sign languages as the speaker is the deictic point in spoken language. "Thus the principle of economy and iconicity are achieved through the verbal agreement ...The place

[22] The 1st image was adapted from Alkoby (1999:5) but originally used in; Baker-Shenk, C. L. (1991). The 2nd image is from http://www.lifeprint.com/asl101/pages-signs/t/timeline.htm

deixis is in relation to the locations that are of relevance to the speaker or the addressee. The distance relevant to the speaker or the addressee could be proximal or distal. Spatial deixis are used to communicate the information that has to do with change in direction or the use of direction" (Edward 2014). In most of the quoted works on sign languages, verbal directionality is presented as agreement verbs (Nyst 2007, Valli et al 2011, Edward 2014, 2012); i.e. the verbs agree iconically with the subject or the object of reference.

### *3.4.3 Iconicity in Ideophones*

On iconicity in the Akuapem Twi, ideophones will be discussed. Agyekum describes ideophones as "linguistic expressions whose forms and sounds often correlate with their semantic meanings and therefore debunk the arbitrariness of language". Also "they operate in a situation where the signified event and the linguistic signifier coincide" (Agyekum 2008:101). The concept of iconicity in language is clearly seen in the ideophones in language. The idea that language is arbitrary alone is debunked by the fact that language can be a phonic pictorial representation of what the speaker has in mind. Dingemanse defines ideophones "as marked words that depict sensory imagery" (Dingemanse 2011a:3). According to Dingemanse, ideophones are that part of the language that creates a mental image of what the speaker is talking about. The following examples were taken from Dingemanse on Siwu;

*saaa* – cool sensation

*kpɔtɔrɔ-kpɔtɔrɔ* - the jerky walk of a turtle

*ɣiii* - the roaring feeling of vertigo (cf. Dingemanse 2011b:42ff.)

*Saaa* depicts a very cool sensation by employing a deviant word structure of vowel lengthening. *kpɔtɔrɔ-kpɔtɔrɔ* is the sound that the jerky walk of the turtle makes and it has reduplicated root. *ɣiii* is the sensation that makes one feel that the environment is spinning around and the use of the pharyngeal approximant [ɣ] shows that ideophones sometimes moves out of the stock of the language to pick a sound that clearly depicts the idea.

Bodomo attests that "ideophones form a phonologically distinct group from the other words in a language and though they employ the same phonological inventories as other words of the language; they have distinct phonological properties with regards to other words in the language" (Bodomo 2006:204). Furthermore, Bodomo describes the morphology of ideophones to have a

higher display of iconicity revealed through sound symbolism. The ideophonic words are icons that describe the concept through sounds that depict the idea that the speaker has in mind. Ideophonic words in languages function as a direct imitation of nature and also express the spontaneous reaction of the speaker (Bodomo 2006). In the Dagaare examples below, the ideophones try to function as a direct imitation of nature and also expresses the speaker's reaction.

*vàrkpàrà/ várkpárá-* in a messy way
*gàrmànà/ gármáná-* spread across a surface
*bìlbàlàà/ bílbáláá-* of a huge item lying down (cf. Bodomo 2006:205)

*Vàrkpàrà/ várkpárá, gàrmànà/ gármáná* and *bìlbàlàà/ bílbáláá* are iconic because they try to depict the entities based on visual perceptions. As stated by Bodomo, "ideophones in Dagaare have specific morphophonological, syntactic, and semantic characteristics that no other word class in the language consistently exhibits" (ibid).

Ideophones according to Dorvlo (2008:239) display unique syllable structure and tonal patterns and they are mostly sounds that are taken from the natural environment based on what people hear and the movement that they see around themselves. Voeltz & Kilian-Hatz (2001) stated that ideophones are found abundantly in African; Asian and Amerindian languages (cf. Dingemanse 2011b).

There is another world view on ideophones as stated by Dingemanse (2011a, 2012); and this has to do with ideophones being marked. This view is shared also by Vidal 1852, Newman 1968, Klamor 2002 etc. (cf. Dingemanse 2012). In this thesis, the notion of ideophones that has been presented is their uniqueness and their ability to stand out differently from all the words of the language. Ideophones are not only unique in their presentation but they also have a more striking effect of creating a picturesque image in the minds of people. This is the iconic manifestation of ideophones that will be deliberated upon in this thesis.

Dingemanse proposed that "the marked structural features of ideophones exist because they have an iconic value" (Dingemanse 2012:657) and this sets the table for the iconicity of ideophones that this thesis sets to present. Thus the relationship between form and meaning is a very important discussion in relation to iconicity of language. For a word to be mapped as an iconic word, it should give a relationship between the form and the meaning, thereby creating a mental

image in the mind of the hearers. For example; the image, the form and the meaning should bear a (triangular) corresponding trait.

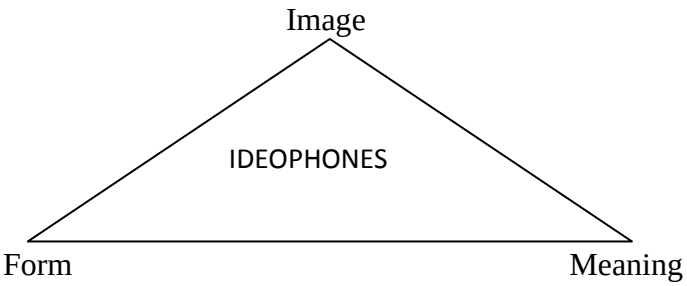



**Fig. 3.6 Image-Form-Meaning relationship**

These three should correspond to create an iconic mapping between the word, the meaning and the mental image. An ideophone like *kɔkɔɔkɔ* in Akuapem Twi create an image of a door, the form is the sound made from hitting a door and the meaning is a knock on a door.

This can be represented as;

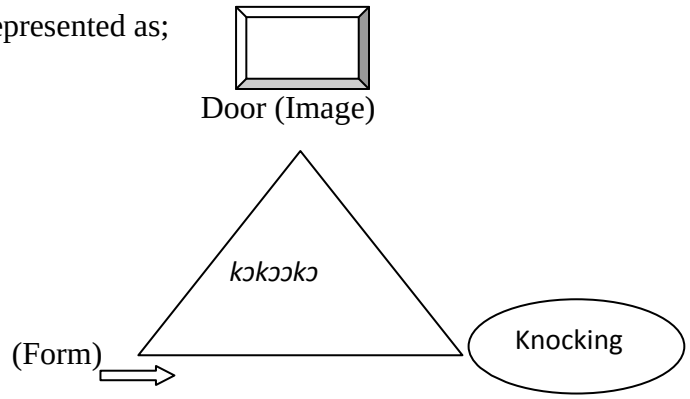



**Fig. 3.7 Iconic correspondence**

Ideophones in Akan are iconic sounds that are used as verbs or adverbs and can also function as adjectives and nouns. Dingemanse cited the *implicational hierarchy* of ideophones in language. The hierarchy is presented below;

SOUND < MOVEMENT < VISUAL PATTERNS < OTHER SENSORY PERCEPTIONS < INNER FEELINGS AND COGNITIVE STATES

(Dingemanse 2012:663 cf. Akita 2009a:20–32; Kilian-Hatz 1999:35–41)

Dingemanse (2012) explained that if a language has ideophones, then this language will have ideophones for sound (onomatopoeia). Again, such language will have ideophones that depict movement, and if a language has ideophones for visual patterns, then it will have for movement

etc. In this hierarchy, perceptual properties are higher because ideophones generally represent perceptual events. This explanation is generally true for the ideophones in Akuapem Twi (Akan). As will be demonstrated later in this work, the Akuapem Twi and the Akan language in general have ideophones for sound, movement, visual patterns (size and shapes), sensory perceptions, inner feelings and cognitive state. However, I will not generalise this schema for all languages with ideophones since l have not researched into different languages. Ameka argued that "ideophones form an integral part of the languages in which they occur and they should therefore not be ignored, but should be considered in their typological characterisations" (Ameka 2001:25). This thesis will discuss and exemplify the Akuapem Twi ideophones for sounds, movement, smell, vision, touch and size and shape.

### 3.5 Imagic iconicity and Diagrammatic Iconicity

The concept of imagic iconicity and diagrammatic iconicity was the idea of Peirce. He calls these two hypoicons (cf. Pietrandrea & Russo 2007:2). According to Pietrandrea & Russo's explanation of these Peircean terms, "images are hypoicons which 'partake of simple qualities' of their object: for example, they have certain perceptual features in common with their objects. Diagrams are instead hypoicons which 'represent the relations, mainly dyadic, or so regarded, of the parts of one thing by analogous relations in their own parts'. Diagrams, that is, are schemata of objects or events in which the relations between features of the object are represented by relations between features of the sign form. Whereas images are overtly referential in nature, diagrams are strictly devoted to the representation of different kind of abstract relations" (cf. Pietrandrea & Russo 2007:2).

Following the claim of Pietrandrea & Russo (2007), these two types of iconicity are found in both spoken and sign languages but their prevalence differs. Whereas spoken languages use more diagrammatic iconicity, imagic iconicity is prevalent in sign languages. In their analysis of iconicity in verbal languages, Pietrandrea & Russo (2007:3) made three classification of the subject of iconicity in verbal languages. These are *paradigmatic* iconicity, *syntagmatic* iconicity and *pragmatic* iconicity (cf. section 3.4).

According to Sallandre & Cuxac (2002:174), imagic iconicity (referred to as *imagistic iconicity* in their paper) is a relevant framework for sign languages. Imagic iconicity has to do with visual

perception between the sign and what is being referred to. They (ibid) also presented two branches of iconisation. These are the iconic intent and the standard sign formation (without iconic intent). The iconisation with iconic intent according to Sallandre & Cuxac "represent the perceptual world with a very strong iconic resemblance of the form" (2002:174) and this gives rise to *Highly Iconic Structure*s (HIS). HIS are imagic iconicity and they are represented as being relevant for sign languages. However, the diagrammatic iconicity is also needed to complete the iconicity in the word order. It is also imperative to note that imagic and diagrammatic iconicity are found in both verbal and sign languages but, their prevalence differs; i.e. sign languages have more imagic iconicity and verbal languages have more diagrammatic iconicity. Working with Sallandre & Cuxac's branches of imagic iconicity, I came up with these two smart art graphic representations, for iconic intent and standard sign formation (without iconic intent);

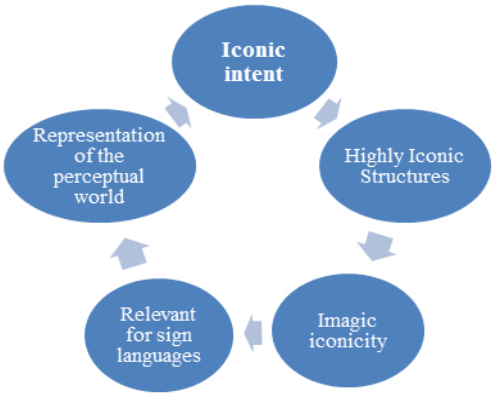



**Fig. 3.8 Signs with iconic intent**

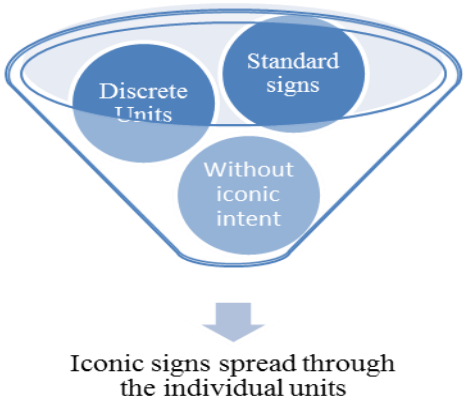



**Fig. 3.9 Signs without iconic intent**

To explain the two diagrams above, the signs that are created with the iconic intent tend to create a resemblance of the form. However, although the standard signs may be iconic in nature, they do not necessarily create iconic units. Rather, the established iconicity in the non-iconic intent is "preserved" because they are the standard forms.

This means that for the HIS, some of the signs are created for convenience and might not necessarily be the standard signs for the concept. For instance, in a descriptive story told with sign language, the signer might invent several HIS to explain the story vividly. The structures might be a representation of persons, objects, movement, shapes etc. These images that are presented may not be the accepted signs for the concepts. The standard signs that demonstrate iconicity are used not with the intention of vividly showing what one is communicating but they spread out the meaning of the sign based on the iconic values that are established within them.

For example, the standard sign for a HOUSE in the GSL and the ASL (as shown in figure 3.4) is a depiction of a roof of a building. With the HOUSE example, the signer does not wish to show how a HOUSE looks like because that is the standard sign for a HOUSE (not all houses have a pyramidal shape of roof. This is the standard sign for HOUSE; pyramidal roof, flat roof, storeys, condos etc.). The depiction of the roof is the standard sign for a HOUSE in the GSL and the ASL. The sign is iconic but the signer does not use it with an iconic intent; the discrete signs or unit spread the iconicity through their representation. However, if the same signer wishes to show how big or small the house is, the signer can create a HIS to demonstrate the size of the house. The idea of using the part of an entity to represent the whole is a metonymic relationship. Metonymy is a "figure of speech where a thing or concept is called not by its own name but rather by the name of something associated in meaning with that that thing or concept"[23] and synecdoche is a type of metonymy "in which a term for a part of something refers to the whole of something"[24]. For this thesis, synecdoche will be used to represent the metonymic relationship.

Diagrammatic iconicity on the other hand is prevalent in verbal languages and Pietrandrea & Russo (2007) presented three forms of iconicity in verbal languages. This thesis will concentrate

[23] http://en.wikipedia.org/wiki/Metonymy

[24] http://en.wikipedia.org/wiki/Synecdoche

on the paradigmatic iconicity which looks at the internal structure of the linguistic form. This explains an isomorphic relationship between the word and the concept, i.e. form and meaning relationship. Perniss et al (2010:8) stated that "direct imitative form-meaning mappings in spoken languages are only possible for acoustic properties and events, which are arguably far rarer than visual properties and events in our experience". Thus it is possible to allude that iconicity in spoken language is an acoustic event. However, other iconic tendencies which this thesis will not discuss into detail have showed that iconicity in verbal languages does not only exist at the word level. *Syntagmatic* iconicity and *pragmatic* iconicity in verbal languages deals with the morphosyntactic structure and the discourse-pragmatic domains. Thus iconicity in sequence will be realised in Julius Caesar's famous speech *veni, vidi, vici (I came, I saw, I conquered).*

Representations of diagrammatic iconicity in the word level (paradigmatic) includes; onomatopoeia, ideophones, phonesthemes etc. Onomatopoeia, ideophones and phonesthemes are sound symbolisms that show a one to one marking of the sound and it referent. Onomatopoeia tends to evoke mental images in the mind of people. The cries of animals and the noise of objects that have been conventionalised into words in English are good example onomatopoeic sounds. The sentence;

8. He *banged* the door when the dog *woofed* causing the girl to *whine*.

is an example of the use of onomatopoeia. *Bang* is a sudden loud noise that got its name from the sound; *woof* is the sound that a dog makes when barking; and *whine* is a high-pitched sound for complaining. Doke (1935) defines ideophone as a "vivid representation of an idea in sound". Perniss et al (2010:8) defines phonesthemes as "a similarity of form, typically in a word-initial or word-final consonant clusters which is correlated with a similarity of meaning" (see section 3.1). To end the discussion on the diagrammatic iconicity, we have to understand that "much of the linguistic literature on iconicity has pointed to cases of such 'diagrammatic iconicity', in which relations among linguistic structures are paralleled by relations among concepts or elements of discourse" (Newmeyer 1992:758).

### 3.6 Examples of iconicity in other languages

Research works on iconicity in language has been done for many languages of the world. Dingemanse (2011a) on the ideophones in Siwu also presented some iconic tendencies that are

found in the Siwu ideophones. To Dingemanse (2011a:165), the recurring point about ideophones is that they are pervasively iconic. However he emphasised that "not all ideophones show transparent form-meaning-mapping for there is a limit to iconic representational powers of speech". Iconicity in the vocabulary of verbal languages can be grouped into *imagic iconicity*, *gestalt iconicity*, and *relative iconicity* (Dingemanse 2011a:164). Imagic iconicity to Dingemanse (2011a) is the mimicking of sounds in the real world; gestalt iconicity and relative iconicity are defined under diagrammatic iconicity. Gestalt iconicity is the resemblance between the word structure and the structure of the perceived event, and it works with duration and the aspect (cf. Dingemanse 2011a:167,168). Relative iconicity is involved with mapping a relation between form and meaning (Dingemanse 2011a:170). The following are few examples of the Siwu iconic ideophones taken from Dingemanse (2011a:165ff);

a. Ideophones that have imagic iconicity
   *gbiĩm̀*- explosion
   *kpɔtsɔkpɔtsɔ*- water bubbling

*Gbiĩm̀* is an ideophone that depicts the sound of an explosion. This monosyllabic ideophone "often evoke perceptions of unitary events". *Kpɔtsɔkpɔtsɔ* depicts the sound of water bubbling and it is reduplicated to show the intensity. (On reduplication cf. chapter 2, section 2.5)

b. Ideophones that have gestalt iconicity
   *mũnyɛ̃mũnyɛ̃*- sparkling light
   *tsɔ̀kwɛtsɔ̀kwɛ*- irregular sawing motion

*Mũnyɛ̃mũnyɛ* and *tsɔ̀kwɛtsɔ̀kwɛ* are both reduplicated ideophones which "has the suprasensory attribute of duration".

c. Ideophones with relative iconicity
   *kpɛnɛnɛ*- high, shrill voice
   *wɔrɔro*- low, hoarse voice

*Kpɛnɛnɛ* and *wɔrɔro* "concerns a relation between multiple signs that has a resemblance to the relation between multiple meanings". Vowels play roles in relative iconicity in making the sounds to resemble the depicted action (cf. chapter 2, section 2.5).

The prevalence of iconicity in home signs and well documented signs (cf. Itkonen 1994:42) is an indication that there exists a higher degree of form-meaning-mapping between the signs that are

used. Valli et al (2011:6) writing on the linguistics of the American Sign Language emphasised that the iconicity in the ASL does not make the language "just a collection of pictures in the air" because the ASL also has arbitrary forms. In the ASL examples below, iconicity is shown in the signs for HOUSE, EAT, CAT, MILK and SIT. This is another indication of synecdoche; i.e. part of the thing is used to represent the whole. HOUSE- Depiction of the roof. This image has a direct movement of the handshape to create an imaginary roof. EAT- The direct movement of the hand to depict the act of eating. CAT- Configuring the handshape to resemble the whiskers of a cat. MILK- This create an imaginary act of milking a cow by squeezing the breast. SIT- The handshape represents two crossed legs.

In Givón's paper on isomorphism (Givón 1985:193), he stated that the letter **A** was derived historically from the head of a bull. This letter from the initial stages of evolution was highly iconic but as it evolved to the letter **A**, the level of iconicity was gradually reduced. This is an indication that concepts in both verbal and signed languages can reduce in their levels of iconic rendition. Itkonen (1994:42) argued that sometimes, in sign languages, the iconic origin of a particular word may become opaque but the structure of the words in sign languages generally depicts the reality which is spoken about.

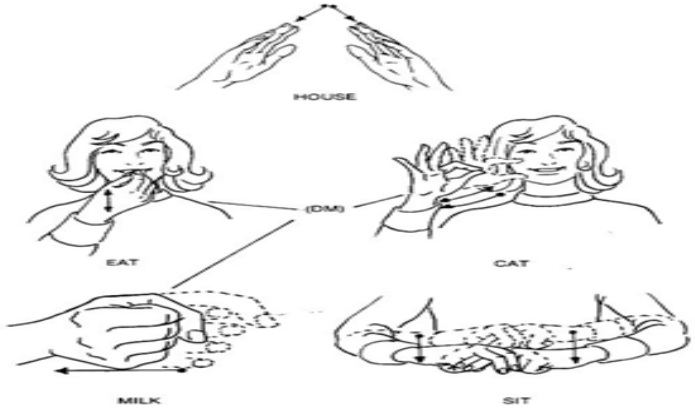



**Fig. 3.10 Examples of iconic signs in the ASL**[25]

[25] The image was taken from http://www.aslts.ca/images/fiveiconicsigns.jpg

Tai (1993:159) presented five iconic motivations in the grammar of Chinese. These are order motivation, distance motivation, separateness motivation, juxtaposition motivation and the reduplication motivation. Order motivation[26] he explained as "the order of linguistic expressions corresponds to their order in the conceptual world" (Tai 1993:159). This can be compared to the iconicity of sequence where the most urgent task comes first. The following sentences in Chinese were taken from Tai (1993:160);

9. Ta zuo gonggong-qiche dao zher
   He ride bus arrive here
   *He came by bus*
10. Ta dao zher zuo gonggong-qiche
    He arrive here ride bus
    *He came here to ride in a bus*

In the above Chinese examples given by Tai (1993), it is clear that 9 focused on *how* the person arrived and 10 focused on *why* the person arrived. Thus the same wording but the change in the ordering of the words changes the focus of the word and make some part of the sentence more iconic than the others.

### 3.7 Motivation for Iconicity

Ponterotto stated that "research on iconicity tends to argue that language is more motivated than previously thought" (Ponterotto 1991:750). In the Gricean maxims of communication, he stated the maxim of quantity which means that one should not be verbose or say more than is necessary (Grice 1975). This notion of economising our conversation is one of the major motivations for using iconic elements in language. Givón also reiterated the need for linguistic economy (Givón 1985:190), thus investing as little coding as possible to express as much information as possible with the least cognitive effort. Linguistic economy is achieved when iconic elements are used in conversation.

Another motivation for using iconic elements in language is the concept of isomorphism. Givón expresses this as the one-to-one correspondence between linguistic code on one hand and the perceived experience on another Givón (1985:188). When there is strong iconic relation in language, the expression gives the context (visual iconicity in sign language; sound symbolism, topicalisation and focus marking in verbal languages). On the other hand, "weak

[26] This thesis will just give brief information on the order motivation by Tai (1993).

iconicity occurs when the signs do not predict the meaning, but the meaning helps to understand the motivated character of the signs"[27] (Andersen 2013).

One other motivation for using iconic elements is for emphasis. This is one of the comments received from the informants. Thus when ideophones or iconic signs are used, the information becomes better understood. *It* depicts the ideas with either signs or sounds to make it more pictorial and as such saves cognitive energy. Another motivation for the use of icons in the Akan language is that it creates a very playful language. Some of the informants believed that the use of ideophones is a good way to play with the sounds of the language. For example;

11. *"Seisei wohwɛ mu a Ghana sidi no, dollar no ama na yɛ* ***dɔɔ****, Euro no ama na yɛ* ***yurobĩ̃*** *ɛna Pounds no ɛ****pam****e no na ɛtaataa no …"* (Adom FM 6am news on 16/09/14)

"Now if you look carefully at the Ghana cedi in comparison to the dollar, the cedi is very calm; with the Euro, the cedi is fading out and the Pound is chasing and hunting the cedi here and there" (translated).

*12. wokɔ hɔ a, small small girls, fĩaagaa fĩaagaa girls…*

"if you go there, small girls, very slim girls…"

In 11, the state of the Ghana cedi is compared to other currencies with ideophones as a funny play of words. *Dollar* rhymes with the ideophone *dɔɔ* (calm), *Euro* rhymes with *yurobĩ̃* (to fade out) and *Pound* rhymes with *-pame* (to chase). In 12, the girls are described to be very slim in a funny ideophonic rendition of *fĩaa* (slim) and *gaa* (little/small) to mean extremely slim and is reduplicated to show the degree of slimness.

### 3.8 Chapter Summary

This section has presented the relevant theoretical background for this research work. Examples were given from both sign and spoken languages that were consulted for this research work (to find out how iconicity is manifested). The propounders of linguistic theories of arbitrariness and iconicity were also given brief introduction and their stand on issues. The section also gave information on how iconicity is revealed in sign and spoken languages, the perceived levels within the iconic concepts and the relationship between the sign and the referent (image-form-meaning-mapping). The chapter also discussed the relevant framework of iconicity for both signed and verbal languages (i.e. imagic and diagrammatic iconicity). Finally, the motivations for using iconic elements were also presented. The next chapter gives

[27] Quoted by Prof. Øivin Andersen in one of his lectures on iconicity (1/10/2013).

a detailed description of the research methodology that was used for the data collection, annotation and selection of the data for this thesis.

# CHAPTER 4- RESEARCH METHODOLOGY

## Introduction

This chapter describes the methods that were used to organise the data that were used for the research work. This research work looked for specific traces of iconicity in the AdaSL and the ideophones of Akuapem Twi. The data that was collected from the languages were on iconicity in the two languages with focus on individual iconic features for each language and also the influence of the dominant language over the minority language.

In other to identify the iconicity in the two languages, I used the qualitative research approach where I studied the languages as used in the community for three months through interviews, elicitation, observations and recorded data. The reason for choosing the qualitative research method is that it "involves an interpretative, naturalistic approach to the world" (Lazaraton 2003:2). Majority of the data that were used for this research work were taken through naturalistic means and the field notes proved to be a good source of recording data beyond the controlled interviews and elicitations.

## 4.1 Research methodology

"To obtain the data that is most important for linguistic theory, we have to observe how people speak when they are not being observed" (Labov 1972a:113 cf. Schilling 2013:66). The best qualitative data that the researcher can access from the informants are the natural data that are not triggered by the researcher. In this work, the focus was to obtain enough data as possible and most of these data were derived when the informants were not being interviewed. The elicitation methods even allowed the informants to communicate their feelings which they did wholeheartedly, without the control of the researcher. Most of the individual words were taken from the many videos and audio recordings that were taken and later transcribed.

### *4.1.2 Data Collection Methods*

Below are the methods that were used to gather the data for this research work.

*Elicitation Interview Method*-The informants that were interviewed for this research work were native signers of the AdaSL for the sign language part. Also native speakers of Akan especially Akuapem Twi speakers were interviewed. This work sought to find out the iconic signs and concepts in the AdaSL and the ideophones of Akuapem Twi (the motivation behind these iconic tendencies if there are), the levels of iconicity and the image-form-meaning-

mapping relationship. All the interviews for the research were face-to-face interviews and the majority of the sign language data was performed using a video camera. Furthermore, because this research concentrated on iconicity in two languages, the data that were solicited through direct and indirect elicitations were analysed for iconicity.

The direct elicitation dealt with specific questions about iconicity in the languages and the indirect was solicited through storytelling, cartoon retelling and discussions. Using direct elicitation with the AdaSL informants, I tested the hypothesis that *there is iconicity in the Adamorobe Sign language*. This gave rise to several challenges because the interpreter had a difficult time explaining to the informants the meaning of iconicity. I ended up using most of the transcribed data to test for iconicity. For the indirect elicitation, I made the informants sign short stories about their experiences; stories about life in Adamorobe and afterwards, these stories were transcribed. Finally, the informants were made to watch cartoons (Canary rows[28]) and then retell the story through the Adamorobe Sign Language (cf. Appendix on elicitation strategies). The indirect elicitation proved to be the best way to get most of the data.

The interview with the speakers of Akan also used the direct elicitation strategy and this was also challenging. For the examples on ideophonic words in Akan, I ended up using recorded radio programmes in Akuapem Twi and some few face-to-face interviews to get most of the ideophones. Indirect elicitation prompt as suggested by Schillings (2013:77) was used. For example, during informal interview sessions, l managed to get some of the informants to name an iconic sound which l made in their presence and also get the meaning of those sounds (this resulted in getting the data for the ideophones depicting sound).

*Observations*-Some of the data were collected by observations, and this was done when I communicated with the informants outside the formal interview sessions. Informant observation is an ethnographic research method for qualitative research work, and usually such data provide a check on the data collected from the interviews and the more structured means of soliciting for information. According to Schilling "this mode of inquiry is defined by the complementary research goals of simultaneously developing an insider perspective while preserving a measure of outsider detachment through long-term involvement in the community of study, both as a researcher and as a participant in community activities of some sort" (Schilling 2013:113). Schilling also proposed that it is better to be the participant-

[28] This is an animated fiction that is filled with lots of gestures and actions. The story is presented in the appendix.

observer because it increases the understanding of the community from its members own perspective.

The informant observations were done on the days allotted for the research work. All the five selected deaf informants of the AdaSL were farmers. The farmers of Adamorobe farm every day except Thursdays and Sundays (Thursday was believed to be the day for the earth goddess and Sunday for church). Before the formal video sessions, I joined the Deaf in a Bible discussion with the Jehovah Witnesses[29] on some Thursdays. Also attending activities like baby naming ceremony (for one deaf lady who also happens to be a daughter of one of the informants), funerals and a marriage ceremony where the deaf also gathered proved to be a good way to observe as a researcher and participant. As I sat and watched how the Deaf communicate in those informal sessions, I observed their signs to see if it matches with the data l collected from the video sessions.

The observation for the Akuapem Twi data was also done simultaneously with the AdaSL data. Speakers of this dialect of Akan were engaged in conversations on different issues and as we communicated, the important points that came out in relation to this thesis were noted. One hearing signer of the AdaSL who is also a prolific speaker of the Akuapem Twi happened to be one of the consultants for this work. His insights into the Akuapem Twi as a native speaker (not as a linguistic expect) was worth noting. Interestingly, as a participant-observer, I realised that the native speaker intuition for the Akuapem Twi speakers was great. It was very easy for the native speakers to identify some of the linguistic variations between the Akuapem Twi and the other dialects of Akan. On the issue of icons in the language, the informants had little knowledge and thus observation played a major role in soliciting the data. Akan speaking radios were also monitored and surprisingly, majority of the ideophones were actually taken from these radio programmes.

*Secondary data (books, articles, papers on the topic)*-Research works on iconicity of language (both spoken and signed) were also consulted for the thesis. The use of secondary data was very useful for this research work, because in addition to the rich information on

[29] A group of Jehovah's Witnesses came to the village on Thursdays to preach to the Deaf. I joined some of their meetings because l was always around. This group preaches to the Deaf using what l term a "pidgin" version of the GSL and the ASL (cf. Edward (in progress) for the impact of this pidgin on the AdaSL). During the data collection for this thesis, I could not join the Deaf church because of distance. The only time I got there earlier, there was no service because the Deaf Pastor had travelled. I met with the Deaf on Sunday afternoons for our sessions. However, prior to this research work, I joined the church on several occasions. According to Nyst (2007), the Deaf church is a Lutheran Church.

other sign languages that I found useful, it also served as a means of comparison. The secondary data gave me the opportunity to compare my findings to that of other sign and spoken languages. The use of the secondary data also helped me to make a comparison from the findings to see if the trends in other language (signed and spoken) are the same as the trends that were found in this research work. Some of the data on the spoken language section were taken through secondary sources and data on the Ghanaian Sign Language and the American Sign Language were also consulted. Earlier works on the two languages were also visited and even personal interactions with some of the authors and their views were taken into consideration[30].

### 4.2 Taking records on the field[31]

In their 1979 work on sign language fieldwork, Stokoe & Kuschel (1979) listed some possible ways to take records on the field. They stated note taking, still photographs, motion pictures and video tapes as some of the means that can be used to take records on the field. For this work, I made use of videos, still photographs, audio recording (for the ideophone data) and note taking as the means of collecting the data in the field. The video sessions engaged signers of the AdaSL and the main purpose of using the video sessions was that it had the ability to capture the whole sequence of the signs and that helped to make the description easier.

At the end of each session, the videos were annotated using the *Microsoft movie marker* to find out iconic signs that were used. The Microsoft movie maker is an application on Microsoft windows that allows a video to be transcribed, annotated and edited. The only feature that differentiates the Microsoft movie maker from other language transcription applications like the *ELAN*[32] is that there is no option for grammatical analysis. All the still photos were actually taken from the videos. The metalinguistic data[33] and also the nonmanual markers in the sign language were all captured on the videos. The specific questions to the deaf informants in relation to their number, religion, work and their problems were taken as notes.

[30] I had one-on-one chat with Dr. Victoria Nyst (the AdaSL), Dr. Felix Ameka (cross-linguistic language investigation and ideophones), Dr. George Akanlig-pare (the GSL) etc. Other contributions were given by Mr. Sackey Apenteng (Akuapem Twi), Mr. Francis Boison (GSL).

[31] This section was adapted from my paper on Research Methodology that was presented in spring 2014. It has gone through modification to meet what actually happened on the field.

[32] This is language annotation software from the Max Planck Institute. For more information see https://tla.mpi.nl/tools/tla-tools/elan/

[33] The relationship between the language and other cultural factors in a society is the metalinguistic data.

Some of the data for the Akuapem Twi were recorded via an audio recorder. Others were recorded manually through note taking, as l could not record everything especially the data that were taken through observation.

### 4.3 Data Sampling

Through the three months of research work in Ghana, many hours of data collection were spent and this resulted in several videos, audio recordings, notes and other supplementary materials. The videos ranged from signing individual words to telling stories, sharing experiences and narrations based on cartoon animations I showed. The audio recordings contained interviews of Akuapem speakers who also signed the Adamorobe Sign Language, other Akuapem speakers who did not sign with the AdaSL and other Akan speakers. The notes were taken based on all the interviews, observations and the elicitation. These data were more than necessary for the thesis, so I sampled the data based on the focus of the research work.

The data that were analysed and transcribed ranged from iconic motivated lexemes/signs in the AdaSL and the ideophonic words in the Akuapem Twi. These data were further classified based on their distinct features. For the iconic motivated lexemes in the AdaSL, they were grouped under signs depicting *size and shape*, *expression of time*, *emotive and cognitive words* and *verbal directionality*. The data that were taken for the Akuapem Twi were also categorised and analysed based on the distinctions below; *ideophones for sound (mimicking sounds), ideophones for touch*, *ideophones for smell*, *ideophones for vision*, *ideophones for movement* and *ideophones for size and shapes*. The selection of the categories of ideophones for this thesis was based on the implicational hierarchy that was quoted in the chapter 3 (Dingemanse 2012). The selected AdaSL data and the ideophones were analysed to find out the iconicity revealed and if there is a motivation for the iconicity, it is also presented.

Aside the data for the AdaSL and the Akuapem Twi, I also interviewed and collected data on the Ghanaian Sign Language (GSL) and the some other Ghanaian languages were investigated. These additional data served as a source of reference and comparison and only a few of them will be presented in this work. The sampling method used to select the informants was the judgement sampling (Schilling 2013:35) because I needed people who are abreast in the languages that I was working on to act as informants. Judgement sampling was used for the data selection because "it is not random" (Schilling 2013:35) and it is based on the opinion of the researcher to select the variables that are important to him. As Schilling

(2013:35) notes, *"*we must base our judgement not simply on predetermined research questions but at least basic knowledge of the social groupings relevant to the population of study".

For the AdaSL data, only the interviews with the adult signers were transcribed and analysed (because the young signers prefer to use the GSL) and the data on the Akuapem Twi ideophones were mostly from people who speak the language fluently and others whose work demand fluency in the Akan language. The above methods were preferred since I used the data to make generalisations about the AdaSL and the Akuapem Twi ideophones. The 5 informants for the AdaSL were 2 men and 3 women (the women were perceived as good in conversations and the men had good judgement).

The informants that were consulted in this research were all adults. For the data on the AdaSL, I worked with 5 deaf informants and a hearing signer who sometimes acted as an interpreter (hearing signer was a male). On some days, I encountered other deaf people who came around to help. However, the data taken for this research work were from the 5 deaf informants. The Akuapem Twi data had unspecified gender representation since the observed data were more comprehensive than the data from the regulated interviews. For the recorded voices that were presented in this thesis, 17 were from men and 2 from women. The views of the hearing signer of the AdaSL who is also a native speaker of Akuapem Twi were taken into account.

### *4.4.1 Data Description*

The data that were taken into account were collected from the many hours of video recording, audio recording, interviews and note taking. For the AdaSL section, the selected data were on general iconicity in the language which was further classified into;

a. Size and shape concepts
b. Expression of time
c. Emotive and cognitive concepts
d. Verbal directionality

These were all taken from the data derived from the fieldwork (2014) undertaken in the Adamorobe community. The data were moving pictures (videos) and the still pictures were taken from the video data. The extra-linguistic information was recorded through notes taking.

On the Akuapem Twi, the data that were selected were on the ideophones in the language and these were further categorised into;

a. Ideophones for sound
b. Ideophones for touch
c. Ideophones for smell
d. Ideophones for vision
e. Ideophones for movement
f. Ideophones for size and shapes

The data for the Akuapem Twi ranged from face-to-face interviews, recorded Akuapem Twi radio programs and other secondary sources.

### *4.4.2 Annotation and transcription*

The sign language data that were gathered were annotated using the Microsoft movie marker. The examples that were cited in this thesis were glossed using the Akuapem Twi and the English language. The data is first presented in the sign language syntax, and then the Akuapem Twi and the English glosses (For AdaSL). For simplicity, the signs that will be presented in this work will incorporate symbols for easy description. For example a simple verbal directionality as demonstrated in the AdaSL;

1. KOFI^ KAAR^ TƆ^ < MA-ME> (the signer) ← AdaSL Sign
   Kofi atɔ kaar ama me Akuapem Twi
   *Kofi has bought a car for me* English

In the above example, the use of the arrow indicates that the signer's hand movement for *ma-me* is towards him. If the movement had been away from the signer, the direction of the arrow would have changed. Also the symbol ^ indicates that the signs were signed differently and the symbol – shows that the sign is one for the two words (cf. transcription symbols).The use of these symbols in the thesis will be useful for easy understanding of the signs. Where the signs are accompanied by other nonmanual markers that contribute to the meaning of the concept, it is indicated. The sign language concepts were also presented in smaller uppercase (e.g. HOUSE).

The Akuapem Twi data were mostly recorded through an audio recorder and later copied to the computer for analysis. The data were then given English glosses and some used the morpheme-by-morpheme glossing system. The Leipzig interlinear glossing rules were used

where necessary. Larger quotes were transcribed into English without the morpheme-by-morpheme glossing and shorter sentences had the interlinear glosses.
Iconicity as a linguistic feature in the two languages was the basis of the analysis and almost all the data that were analysed had iconicity as the basis.

### 4.5 The Practical challenges

The fieldwork was without challenges and for every new challenge that was faced; it opened a new door for the researcher.
The first practical challenge that was faced was getting the informants for the work. The deaf people in the Adamorobe community were willing to help with the research work but I had problems with their availability. Our interactions had to be limited to only Thursdays and Sundays since they go to the farm on the other days. The community is a farming community and as such holds funerals[34] on some Thursdays. On such days; I had to wait for the people to return from the funeral before we had our sessions. Sometimes, I joined their activities and that gave me the opportunity to observe as well.
Another practical challenge faced was the problem of interpretation for the first two weeks. My research consultant who led me to the community is bilingual in the AdaSL and the GSL but he had limited vocabulary in the AdaSL. However, this challenge was soon overcome because it led me to take some few lessons in the AdaSL and which later made some of my interactions with them easier.
The limited time I spent with the people made it impossible for me to collect all the data l had wanted to take. However, I spent five days together with one hearing signer and a deaf signer in the Ivory Coast (at a sign language conference). This gave me the opportunity to have a one-on-one interaction with them outside the domain of Adamorobe.
Finally, it was very difficult to interview the Akuapem Twi speakers in Adamorobe. Aside the people close to the deaf people, the other members of the community were mostly occupied and perceived the work as for the "deaf people". This challenge was also converted to new avenue to get the Akuapem Twi data by interviewing people outside the village.

#### *4.5.1 Theoretical challenges*

"The first step in the beginning of ethnographic research is to recognise that we inevitably bring pre-conceived notions and biases with us when we enter the field" (Schilling 2013:117). The above quote from Schilling was indeed the problem I faced when I entered the field. The

[34] In most communities in Ghana, funerals are seen as a community affair.

pre-conceived notions and the pre-supposed answers about the AdaSL and the ideophone of Akuapem Twi had to be forgotten as soon as I started the fieldwork.

Most of the informants that I interviewed in the Adamorobe community have been interviewed on several occasions by different researchers so they were not moved by the presence of the camera. However, who to become part of the informants was a challenge and I wanted the informants who will genuinely help with the research work. I had to remain neutral for the deaf people to appoint the informants that I can work with.

### *4.5.2 Observers Paradox*

There was no significant impact of my presence or the camera to the AdaSL informants as the people of the community have seen different researchers investigating their language. However, to get the data without having the informants change their mood or the way they communicate, most of the data were retrieved from storytelling. The informants shared their experiences, their aspirations and retold stories from cartoon videos shown to them. Very few individual words were signed in the AdaSL data. Sometimes, the informants forgot the presence of the video camera and they signed until one suddenly reminds them that they are been videoed.

However, the Akuapem Twi data had to be solicited mostly with the researcher as a participant-observer. The informants tried to use "polished speech" thereby avoiding the use of the ideophones in instances where they would have been used.

## 4.6 Reliability and validity: sufficiency of the data for the research

A qualitative research does not use statistical enquiries to make predictions, but uses interviews, observation and some naturalistic data to make its predictions. It is very imperative that a qualitative research uses means that are reliable and valid so that the researcher's generalisations will not be biased. Golafshani (2003:600) stated that; "it seems when quantitative researchers speak of research validity and reliability, they are usually referring to a research that is credible while the credibility of a qualitative research depends on the ability and effort of the researcher".

This section of the work looks at the sufficiency of the data to make predictions about the AdaSL and the Akuapem Twi. This study on the iconicity in the AdaSL and the Akuapem Twi is reliable and valid because the information that was assessed came from the native

signers and speakers with thorough observations and analysis of the data. Furthermore, for the research to be reliable, specific topics in relation to iconicity were discussed. The narrowing of the research topics to iconically motivated signs in the AdaSL and the ideophones in the Akuapem Twi was to allow the researcher to have enough time to investigate the issues. The data taken were appropriate for the topical issues raised in this thesis and to make the research work trustworthy.

Morse et al (2008:14) claims that "without rigor, research is worthless, becomes fiction, and loses its utility" and this indicates that a qualitative research must have rigorous and thorough scrutiny. To Golafshani (2003:602), "if the issues of reliability, validity, trustworthiness, quality and rigor are meant differentiating a 'good' from 'bad' research then testing and increasing the reliability, validity, trustworthiness, quality and rigor will be important to the research in any paradigm". Every research work has its own challenges and this work was no exception. However, the findings of the fieldwork have been taken through thorough investigations and can be generalised for the languages being studied in this work.

It must be emphasised that the reliability and the validity of this work is limited to the Adamorobe Sign Language and the Akuapem Twi. Other sign and spoken languages may share all or some of the features that will be discussed in this work but the researcher does not want to generalise for all languages.

### 4.7 Chapter Summary

This chapter of the work has given an in-depth description of the data collection methods that were used for this research work. The methods used to select the informants for both the sign and spoken languages have been given. It also described how the selected data were annotated and transcribed (i.e. sign language data and the spoken language data). Furthermore, the sampling methods for the data taken from the field have been described. The challenges of this work; that is the theoretical and practical challenges were also discussed. Finally, the chapter concluded with the reliability and the validity of the data selected for this research work.

The next chapter gives an in-depth analysis of the data and also present the discussions based on the research focuses and the theoretical framework.

# CHAPTER 5- RESULTS AND DISCUSSION

## Introduction

This section of the work presents the main findings and the results that were derived from the study. The section has been categorised under the topical issues that were raised. The main focuses of this work were to find out the iconicity in the Adamorobe Sign Language (iconically motivated signs) and the Akuapem Twi ideophones, their levels of iconicity and the image-form-meaning-mapping relationship within the iconic elements. This chapter also presents the findings based on the fieldwork and also compares these findings to the relevant research works (theoretical background) that were presented in the chapter 3 of this work. The main findings are presented in the following order; a presentation of the data, a general discussion of iconicity in the two languages, a discussion of the AdaSL findings and a discussion of the Akuapem Twi ideophones. This section also presents the types of iconicity that were found based on the levels or degrees of iconicity.

## 5.1 Data Analysis

All the selected data for the thesis were analysed to get the proper overview of iconicity in the two languages. The selected data ranged from iconicity in the Adamorobe Sign Language and the ideophones in Akuapem Twi. The data is further grouped based on categories for easy retrieval. For the AdaSL data, the general iconicity in the language was revealed through the iconically motivated lexemes/signs. This is further classified into the iconicity of size and shape concepts, expression of time, emotive and cognitive concepts and verbal directionality. For the Akuapem Twi section, ideophones were chosen to narrow the research work since iconicity can be revealed in several ways in the language. The ideophones depicting sound, touch, smell, vision, movement and sizes and shapes are discussed for iconicity.

## 5.2 Iconically motivated lexemes/signs in the AdaSL

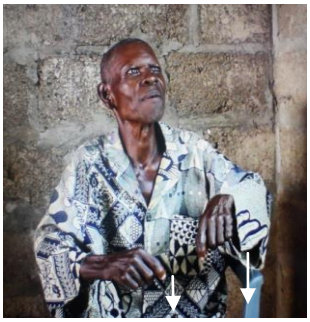
This section of the work presents a description of some of the iconically motivated lexemes/signs in the AdaSL. The motivations behind these words are given and pictures of some of the concepts are also presented. Iconically motivated signs are discussed under concepts for size and shape, expression of time, emotive and cognitive words and verbal directionality (agreement verbs).

### *5.2.1 Iconicity in size and shape entities in the AdaSL*

The signs that represent size and shape entities in the AdaSL are highly iconic. For example, MONTH is depicted by making the sign of a crescent; the crescent is used in astronomy to represent the moon. In the Akan culture, the moon is the depiction of the month. Thus the month is called *bosome* in all the dialects of Akan. *Bosome* is also the same word for the moon in the Fante dialect but *ɔsram* in the Akuapem Twi dialect. Both *bosome* and *ɔsram* refers to the moon in the Akan language and "it is suggestive of a practice that had its origins in a lunar month" (Adjaye ed. 1994:63).

The sign for ADAMOROBE is a representation of drumming and the sign for THURSDAY is iconic for *cutlass repairs*. Nyst noted that; "on Thursdays, the people of Adamorobe are not supposed to work on their lands. Instead, they go to the market in Aburi, where the farmers of Adamorobe usually sell their crops. They also take their cutlasses there for repair. The sign THURSDAY is said to refer to the straightening of cutlasses by blacksmiths" (Nyst 2007:114). Another, depiction of size and shape in the AdaSL, is the sign for BIG (kɛseɛ). The arms are generally opened wide (depicting the size) and the signer tries to voice the nonmanual mouthing *agbo* which means big in Ga[35]. Nyst (2007:135) reports that "speakers of Akan in Adamorobe also occasionally use this word" and this means that the AdaSL has been influenced by the actions of the hearing people. Size and shape icons are sometimes realised in the relative shape or size of part of the entity. In the AdaSL, some signs have part of the entity that is taken to represent the whole. This synecdoche relationship is very iconic; the signer tries to imitate part of the entity to represent the whole. For instance, the sign for WOMAN (ɔbea) is done by imitating the breast and the sign for MAN (ɔbarima) is done by imitating the beard. SUNDAY is represented by the opened palm which signifies the Bible. Thus the Bible which is used on Sundays has been used to represent the whole day. CHURCH (as an act of worship) is signed by closing the two hands as to worship.
Other examples of size and shape signs in the AdaSL are; BARREL (circular, round shape), BENCH (a long stretched seat), WINDOW (a rectangular shape), SMALL/LITTLE (by the relative quantity) etc. The figures below are some of the examples of the size and shape concepts that are represented with icons in the AdaSL;

[35] Ga is a Niger Congo language spoken in parts of the Greater Accra region of Ghana. Adamorobe is very close to the capital city of Ghana where Ga is used.

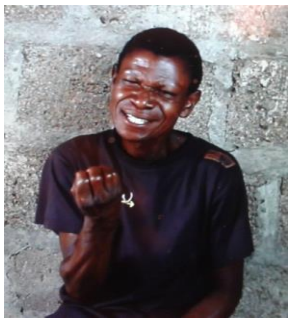


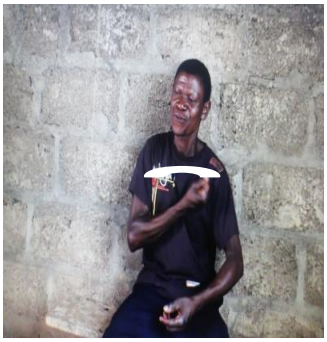
**Fig.5.1** **Fig.5.2** **Fig.5.3** **Fig.5.4**

Fig. 5.1 MONTH (depicting the crescent/moon)

Fig.5.2 ADAMOROBE (depicting drumming)

Fig.5.3 THURSDAY (depicting the cutlass repairs)

Fig.5.4 SMALL/LITTLE (in relation to quantity)



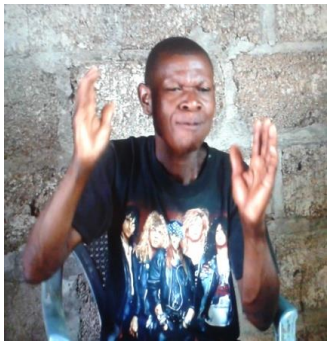


**Fig.5.5** **Fig.5.6** **Fig.5.7**

Fig.5.5 ɔbea (WOMAN-depicting the breast)

Fig.5.6 Kwasiada (SUNDAY-depicting the Bible)

Fig.5.7 kɛseɛ-agbo (BIG-depicting the relative size)

The table below presents a summary of the size and shape signs that are iconically marked in the AdaSL.

| **Iconic feature** | **Motivation** | **Examples** |
|---|---|---|
| Whole entity (complete iconicity) | The handshape is configured to represent the entire entity by its size or shape. It gives an iconic pictorial representation of the concepts. | BENCH, BARREL, SMALL, BIG |
| Synecdoche representation (Part-whole relationship) | Part of an entity is used to represents the whole. The relative size or shape of that part becomes the iconic sign for the whole. | SUNDAY (opened book), MAN (beard), WOMAN (breast), MONTH (crescent) |

| Iconic feature | Motivation | Examples |
|---|---|---|
| Activity representation | An action done in the whole concept represents the sign. It is usually the shape of an action that is done. | THURSDAY (cutlasses repair), ADAMOROBE (drumming) CHURCH (closed palms, symbolic of worship) |

**Table.5.1 Representation of size and shape in the AdaSL**

### *5.2.2 Iconicity in the expression of time in the AdaSL*

"One of the features that make language unique as a communication system is that its users are not limited to talking about events in the "here and now". This quality known as *displacement*, allows language users to talk about things that are not immediately visible" (Valli et al 2011:120). In chapter 2, we looked at displacement as one of the features of a human language. The Akan language has "a two-way tense distinction", the future and the non-future (Osam 2003:5). Aside the use of the tense markers, adjectives likes *ɛne* (today), *ɛnora* (yesterday) and *ɔkyena* (tomorrow) are also used to express time in Akan. This is reproduced in AdaSL because tense or time is usually indicated by these adjectives or the use of nonmanual markers when signing. These nonmanual markers take the place of the tense or the aspectual forms in the AdaSL. Iconicity is revealed through the expression of time in the AdaSL. In the figures below, the hand moves forward for the sign for TOMORROW and the hand moves backward for the sign for YESTERDAY.

**Fig.5.8 ɔkyena (TOMORROW)**

**Fig.5.9 ɛnora (YESTERDAY)**

The future is marked by the sign *ɔkyena* (TOMORROW) for events that will happen the next day and with nonmanual markers that include facial expressions are used for infinite time in the future. The future is *ahead;* the past is *behind* in relation to the human body and the *now* is deictic with the signer. Spatial relation to time is very important and the signer is always the deictic point of reference. One *crescent* represents <ONE MONTH>; and the sign of the crescent

with the addition of numbers represent a certain number of months. Therefore, <FIVE MONTHS> will be the sign of a crescent plus the figure five (or signing MONTH for five times). The use of the time line (as indicated in chapter 3) in the expression of time is highly iconic because "foreseeable future events are ahead" and "normally our eyes look in the direction in which we typically move (ahead, forward)" (Lakoff & Johnson 2008:16). Furthermore, "the signer's position is associated metaphorically with the meaning of the 'present'. The space in front of the signer is understood to mean the 'future', and the area behind the signer (moving backwards over the shoulder) has the general meaning of 'past' (Valli et al 2011:121)".

As shown in the figures above, *ɔkyena* (TOMORROW) is signed in the space in front of the signer and *ɛnora* (YESTERDAY) is realised with the handshape moving backwards. Also, past tense can be expressed using nonmanual markers and the sign *wie* (FINISHED). The palm is opened to show that the person has nothing more to do. This is also iconic in it representation. The distance behind and in front of the signer represent the time line in the AdaSL. According to Wilcox "if in some signed language time were conceived as a process and expressed phonologically as a handshape …, there would be no iconic relation: processes and objects are too distant in conceptual space to motivate cognitive iconicity. If instead time is metaphorically conceived as an object moving in space and realised phonologically as a moving handshape, the sign is iconic" (Wilcox 2004:123). (cf. Perniss 2007 on *space and iconicity* in sign language).

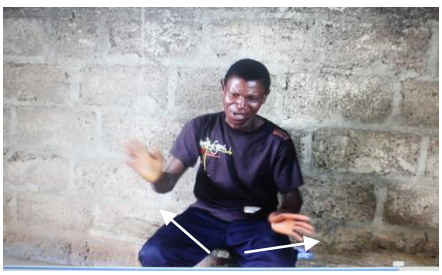


**Fig.5.10 wie (FINISH)**

| AdaSL Sign | Time Expression | Meaning |
|---|---|---|
| Signer's Position | Present | Now, today, current |
| In front of the signer | Future | Tomorrow, later, not now |
| Behind the signer | Past | Yesterday, sometime ago |
| Opened palms | Past | Finished, done, completed |
| The crescent | Month(s) | Counting the months |

**Table.5.2 Representation of Time in the AdaSL**

### *5.2.3 Iconicity in Emotive and Cognitive words in the AdaSL*

To find out the emotive and cognitive words in the AdaSL, the informants were asked to tell stories about what they do not like about the situation of the Deaf in Adamorobe. Furthermore, some individual signs were also taken. During the annotation, the individual signs were compared with the signs that were derived from the conversations. The AdaSL has a wide range of signs to describe emotive and cognitive actions. However, not all the emotive and cognitive words in the English language have individual signs in the AdaSL. The signs were based on the broad knowledge of emotive and cognitive words in the Akuapem Twi. There were some English words that l could not find their interpretation in Akan, and as such it was not possible to let the interpreter know their meaning in Akuapem Twi. Notwithstanding words like *pain, worry, hurt, happy, sad* (emotive) etc. and words like *think, understand, agree, confuse, forget* (cognitive) etc. were realised in the AdaSL. These words were found out to be highly iconic in their presentation.

#### 5.2.3.1 Emotive words in the AdaSL

Generally, the realisation of emotive words in the AdaSL has something to do with the chest area of the human body. Signers of the AdaSL attested to the fact that these words have something to do with the heart of the person involved. Thus some of the emotive words that were realised in the AdaSL were signed on the chest area, or had a relation to the chest area of the human body. The ones that were not signed on the chest area also carried a lot of the nonmanual markers that showed the signers emotions on the face. This confirms the fact that when we are in an emotional state, certain parts of the human body get automatically connected. *Scientists* say that adrenaline is released when a person is afraid, or happy (emotional swings), the heart pumps faster when one is angry and the countenance of a person fall when the person is sad or anxious.

The emotive words that were signed in the AdaSL for this thesis are; *pain, feel, worry, hurt, happy, sad, sorrow* and *worry*. All these words were realised with facial expression that expressed the signers' emotions. *Pain, worry, hurt, sad* and *sorrow* were signed with the expression that showed that the person is not happy but is in pain, is worried, is hurt or is sad. *Happy* came with a jovial facial expression and *feel* was rendered as a body sensation. The sign for *feel* begins with an initial tickling of the side of the ribs and the signer sequentially moves as if to respond to the tickle. The AdaSL renders *feel* as *atinka* and *atinka* in Akan means a sensation. The problem I faced during the data collection was that the English

language has a lot of words for different emotive states but the Akan language grouped most of them under umbrella terms (some of the words were explained to get the Akan meaning).

When the meaning of a word is emotional but also has to do with the body, the sign changes. For instance, the signs for *hurt*[36] and *pain* have the meaning of body or physical damage. The place involved is identified and the signer shakes one or two hands to show the discomfort involved. This is also complemented with a facial expression to show that the person is suffering. Below are the list of emotive words and their rendition in the Akuapem Twi and how they are realised in the AdaSL;

| **Emotive Word/Sign** | **Akuapem Twi** | **Place(s) involved in signing** | **Nonmanual markers used** |
|---|---|---|---|
| PAIN* | ɔyaw | The shaking of one hand or two | An expression of pain |
| HURT* | ɔyaw | The shaking of one hand or two | An expression of pain |
| FEEL | atinka | Around the ribs | A twitching movement |
| WORRY | adwendwen | Around the head | A sad face |
| HAPPY | anigyiɛ | The chest area | A smile and a jovial look |
| SAD | awerɛhow | The front part of the body (upper part) | A downcast look |
| SORROW | awerɛhow | The front part of the body (upper part) | A downcast look |
| ANGRY | abufoɔ | The chest area | A "serious" face |

**Table.5.3 A list of emotive words in the AdaSL**

**atinka (FEEL)**

**anigyiɛ (HAPPY)**

**adwendwen (WORRY)**

**Fig.5.11 Emotive signs**

[36] The signs for HURT and PAIN in the AdaSL are generally for physical pain of the body and least seen as psychological or emotional.

### 5.2.3.2 Cognitive words in the AdaSL

The cognitive words in the AdaSL relates to the mental actions that has to do with the activities of the mind. Some of the cognitive words combine different iconic morphemes (compounding). For instance, the sign for UNDERSTAND is signed with the index finger touching the side of the forehead and then both hands open up simultaneously. The index finger touching the forehead is also the sign for THINK and the second part is the sign for SHINE/BRIGHT/CLEAR i.e. the two hands opening up simultaneously. UNDERSTAND can be rendered as THINK^CLEAR. The sign for FORGET is THINK^LOST and CONFUSE is THINK^HAPHAZARD. The sign for AGREE, although is a cognitive word is not rendered at the head. It is rather signed in front of the body; the two palms come together and they are moved simultaneously. This is iconic of a handshake; people in agreement usually shake each other. The table below shows the cognitive related signs in the AdaSL and the parts of the body that were used to create the sign.

| Cognitive Sign | Akuapem Twi | Place(s) involved | Nonmanual markers |
|---|---|---|---|
| THINK | dwene | The side of the forehead | A concentrated face |
| UNDERSTAND | nteaseɛ | The side of the forehead | Jovial facial expression |
| AGREE | gyetumu/adwenkoro | In front of the body | Happy look |
| CONFUSE | adwentanta | The side of the forehead | A look of confusion |
| FORGET | awerɛfi | The side of the forehead | A look of regret |

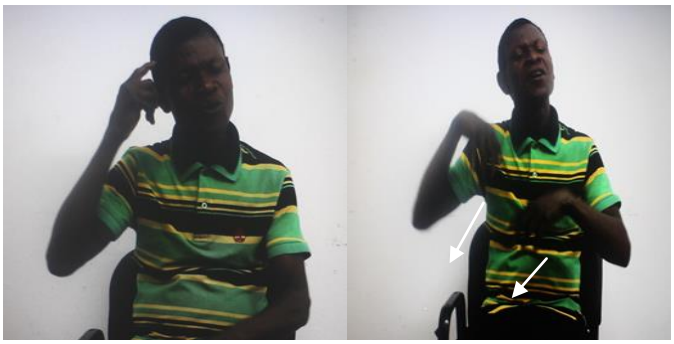
**Table.5.4 A list of cognitive words in the AdaSL.**

The above table is an indication that the signers of the AdaSL try to imitate the gestures or the actions that move with the cognitive words.

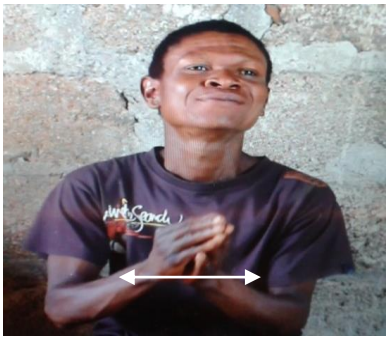
**THINK**

**CONFUSE (THINK^HAPHAZARD)**

**UNDERSTAND (THINK^CLEAR)**



**FORGET (THINK^LOST)**



**AGREE**

**Fig. 5.12 Cognitive signs**

### *5.2.4 Iconicity in Verbal Directionality in the AdaSL*

On verbal directionality iconicity, I will give a brief introduction to the three main categories of verbs in sign language based on Valli et al (2011). The three categories are plain verbs, indicating verbs and depicting verbs.

According to Valli et al, plain verbs are "produced in a static location that cannot be altered without changing the meaning of the sign". Also plain verbs do not give "information about the subject or the object of the sentence" (Valli et al 2011:133). Examples of plain verbs in Akan are; eat-*di*, study-*sũa*, have- *wɔ*, like- *pɛ*, love- *dɔ*, live- *te* etc.

Indicating verbs are described by Valli et al as more dynamic than plain verbs. Liddell 2003 stated that for the indicating verbs, there is a movement towards "specific people, objects or spatial location" (cf. Valli et al 2011:133). There is also the addition of extra linguistic information concerning the subject and the object of the sentence. Examples of the indicating verbs in the Akan are; tell-*ka*, give-*ma*, send-*suma*, pay-*tua*, carry-*sua*, bring-*fa bra*, help-*boa* etc.

Depicting verbs also "convey two types of information … information related to the action or state of being and the forms of depicting verbs represent aspect of their meanings" (Valli et al 2011:138). Such verbs in the Akan include; climb-*fow*, drive-*twuw*, walk-*nante*, open-*bue*, fall-*tɔ* etc.

Verbal directionality[37] is highly iconic in most studied sign languages. It is recorded in the ASL (Valli et al 2011), the GSL (Edward 2012), the AdaSL (Nyst 2007) and many other sign languages. In the AdaSL, directionality plays a key role in the verbal agreement (on spatial locations).

[37] All the works quoted state this as verbal agreement (or agreement verbs). However in this thesis, I have introduced the term *verbal directionality* in the place of verbal agreement.

### 5.2.4.1 Directionality of Verbs

The verbs in the AdaSL have directionality; thus the direction of the signer's hand indicates the movement of the verb. A very typical directional verb is the indicating verb GIVE. In the AdaSL, GIVE as a verb has an iconic signage and as such the movement of the signer's hand shows whether he is *giving* or *receiving*. When the signer is the one *giving*, the movement begins from him to the recipient(s) but when he is *receiving*, the movement begins away from the signer to him. This deictic movement in the AdaSL is highly iconic and also economical. Aside the verb GIVE, other verbs in the AdaSL have directionality. Another verb that carries agreement in direction is the indicating verb SEND. With SEND, the signer acts as the reference point and the movement goes away from the signer. CARRY and BRING in the AdaSL are also directional. The depicting verb CARRY (→) moves away from the signer and BRING (←) moves towards the signer. With these verbs, the signer acts as the deictic point of reference and the movement is iconically marked[38].The iconicity of the plain verbs in the AdaSL is visible; EAT, LOVE, HAVE, LIKE etc. are all iconic in their representation. However, their directions are static. The signs for EAT, HAVE, LIKE, LOVE etc. are towards the signer. The indicating and the depicting verbs share a good deal of verbal directionality. The tables below present some of the AdaSL directional verbs;

| **Verbs** | **Towards signer ←** | **Towards other(s)→** | **Motivation** |
|---|---|---|---|
| EAT | yes | no | One way |
| HAVE | yes | no | One way |
| TELL | yes | yes | Bidirectional |
| GIVE | yes | yes | Bidirectional |
| PAY | yes | yes | Bidirectional |
| CARRY | no | yes | One way |
| BRING | yes | no | One way |

**Table.5.5 Verbal directionality; signer and receiver icons (plain and indicating verbs)**

[38] The AdaSL verbs GIVE, SEND, CARRY and BRING have the same directionality in the ASL and the GSL although the handshapes differ a little. This is very profound because as stated earlier, the ASL and the GSL are unrelated to the AdaSL. However, iconicity as a universal concept in sign languages permeates to make these signs have the same directions.

| Verbs | Directionality | Motivation |
|---|---|---|
| CLIMB | Upward movement↑ | Climb is "up" (Upward movement is unmarked) |
| WALK | Forward movement→ | Walk is "forward" |
| FALL | Downward movement ↓ | Fall is "down" |

**Table.5.6 Verbal directionality; spatial and movement icons (depicting verbs[39])**


**GIVE to another → away from the signer** **GIVE to the signer← towards the signer**

**Fig.5.13 GIVE as a directional verb**

In the example below;

**A**. 1. <KOFI^ KAAR^ TƆ^ MA-ME> (the signer) ← AdaSL Sign

Kofi car buy give me Gloss

Kofi atɔ kaar ama me Akuapem Twi

*Kofi has bought a car for me* English

The indicating verb GIVE moves towards the signer because, the "car" is from "Kofi" to the signer. However, if the signer bought the car for Kofi, then it will be realised as;

2. ME^ KAAR^ TƆ^ MA^KOFI (the addressee) → AdaSL Sign

I car buy give Kofi Gloss

M'atɔ kaar ama Kofi Akuapem Twi

*I have bought a car for Kofi* English

The iconically motivated signs in the AdaSL reveal that there is a great degree of icons that are used in sign language communication. This revelation emphasises the point made by Wilcox "that when viewed from a cognitive perspective, grammatical iconicity is revealed to be just as ubiquitous among signed languages as it is among spoken languages—indeed, because visible movements of hands have even more semiotic potential than the

[39] The above depicting verbs have the same directionality in the GSL but the handshapes are different.

predominantly invisible movements of vocal tract articulators, signed languages are even more richly iconic than spoken languages" (Wilcox 2004:121).

### *5.2.5 Arbitrariness in the AdaSL*

Although this research looked for specific traces of iconicity in the AdaSL, arbitrary elements were found. Generally, the number of iconic elements that were realised was higher than the arbitrary elements. The percentages based on the data collected are 85% of iconic elements and 15% of arbitrary elements in the AdaSL. The estimation might vary if all the signs in the language are brought together. Also, this research focused more on signs that have iconicity as the basis and this may account for the disparity in the figures. The arbitrary concepts do not give any clue to what the signer has in mind, i.e. they are symbolic. The iconic words might not be so clear on the surface but they need little cognitive effort to understand them. The arbitrary signs are totally clueless in their representation and they do not replicate the entity that is being signed. The arbitrary signs below do not give any iconic motivations. These signs might have been iconic in the past but have lost their iconic value. Sometimes, in sign languages, the iconic origin of a particular word may become opaque but the structure of the words in sign languages is generally to model the reality which is spoken about (cf. Itkonen 1994:42).

**MONEY** **TUESDAY** **SATURDAY** **WEDNESDAY**

**Fig.5.14 Arbitrary concepts**

### *5.2.6 The influence of Gender in the AdaSL data*

The Adamorobe community had 25 deaf people as at the time of this research work (2014). 10 of these were children and 15 were adults. Some of the young children were still in the boarding school for the Deaf located in Mampong Akuapem, some few kilometers from the community. 5 of the adults' signers were the informants for this research work and they represented 20% of the deaf population in the Adamorobe community. On the gender base

usage of iconic motivated signs, the realisation was that on concepts that are not found in the AdaSL, the females are most likely to use icons to represent them. The men on the other hand will prefer to use the GSL sign for such concept (if they knew the GSL version). On the whole women used more iconic gestures and tried to use depictive and expressive signs through the handshapes.

The chart below shows the proportion of male-female in the data collection; their ages and the usage of icons. The research work realised that the women used more iconic symbols than their male counterparts. The men did a lot of lexical borrowing from their limited knowledge of the Ghanaian Sign Language more than the women (and I believe this contributed to their using fewer iconic signs as compared to the women).

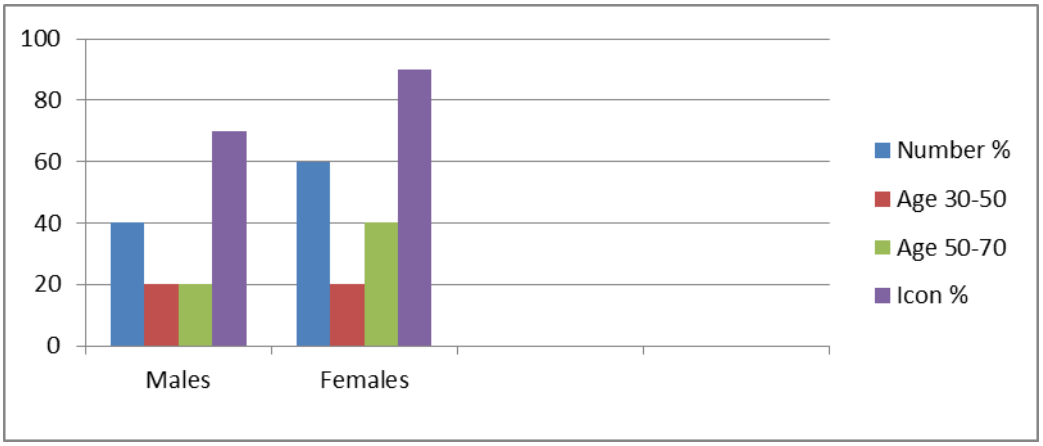



**Chart 5.1 Gender influence in the AdaSL iconicity**

### 5.3 Ideophones in the Akuapem Twi

The next section of the data presentation will look at the Akuapem Twi ideophones that were investigated for iconicity. The data for the ideophones were categorised for easy analysis and retrieval. There are certain ideophones that have more than one meaning because ideophones are sound symbolism. This work used the ideophones in the Akuapem Twi taken through the data collection (and few from secondary sources). There are several ideophones that are not mentioned in this work and these can be grouped into different categories (which are not mentioned in this work). The categories to be analysed in this section of the work based on the implicational hierarchy (cf. chapter 3, section 3.4.4) are;

a. Ideophones for sound
b. Ideophones for touch
c. Ideophones for smell

d. Ideophones for vision
e. Ideophones for movement
f. Ideophones for size and shapes

Most of the data for the ideophonic words in Akan were collected randomly from speakers because it was difficult to solicit for the data during the interviews. Recorded data from Akan speaking radio stations were used extensively for this research work.

### *5.3.1 Iconicity in sound ideophones (Ideophones for sound)*

Sound ideophones in the Akuapem Twi mimic the sound of an action. Generally, all ideophones are sound symbolism but these sound ideophones mimic a particular sound. In the Akuapem Twi (and Akan in general), the use of the sound ideophones give a vocal iconic representation of the action (i.e. a direct mimicking of the sound). The sound ideophones in the Akuapem Twi can further be grouped into general ideophonic sounds and animal sounds. The general ideophonic sounds that were realised in the Akuapem Twi include the following;

**B.** 1. wo-ti edwa wo **gagagaga**, nya ibusport.
2SG SUBJ-head hurt 2SG SUBJ IDEO get Ibusport
*suffering from serious headaches (IDEO), get ibusport* (transcribed radio advert)

The seller of the drug is describing the painful nature of the headache using the iconic ideophonic sound that comes with serious headaches.

2. Nnosia na a-bɔ **kãi**.
six o'clock and PERF-hit IDEO
*It is 6 o'clock on the dot*. (recorded voice)
3. adehyeɛ nyina a-gye -a-tumu de *stamp* a-bo so sɛ **pa͂n**!
royals all PERF-take PERF-agree have stamp PERF-hit on like IDEO!
*All royals have accepted and stamped it IDEO.* (recorded voice)
4. Abusua wo-te **boodwaboodwa** deɛ na ɛ-yɛ sutrɔ mrane
Family 2SG SUBJ-hear IDEO then and 3SG-do slap appellation
*People (family), if you hear IDEO then it could be a slap* (recorded voice)

*Kãi* is the sound the clock makes when it meets the hour and *pa͂n* is also the sound that comes out when one uses an ink stamp on a paper. *Boodwaboodwa* is the sound of a confused crowd especially when there is a fight. Other ideophonic sounds realised are;

*Ngaa-ngaa-ngaa* -the cries of babies
*kãikãikãi* - the sound of a bell ringing

*kɔkɔɔkɔ*- sound for knocking

*ko-ko-ko*- sound for intermittent drops of liquid

*kum*- to hit the floor suddenly

*bumbum*- sound for falling in succession (Agyekum 2008:104)

*birim*- the sound one makes when he falls down plonk (Agyekum 2008:106)

*pitapita*- sound of pounding fufu[40] (Ofori 2009:12)

In the above examples, the reduplication shows the frequency of the action just as gestalt iconicity is the resemblance between the word structure and the structure of the perceived event and it works with duration and the aspect (chapter 3, section 3.6. cf. Dingemanse 2011:167ff). The ideophone *kum* is a monosyllabic ideophone and this semelfactive action is represented as "evoking unitary event" (Dingemanse 2011:167).

Animal sounds refer to the cries made by animals which are also used in several languages as verbs, adverbs and adjectives. In Akuapem Twi and Akan in general, we have words that imitate the cries of the different animals. Bleating is *mmɛɛ* (or *mmɛɛ-mmɛɛ*) or *muumuu*, *kwaa-kwaa* is clucking, *wow-wow* is barking etc.

### *5.3.2 Iconicity in ideophones for touch*

The sense of touch is also represented in the ideophones of Akuapem Twi. These ideophones generally describes the sensation that comes with a touch. The data that were derived have words that describe the physical feelings that move with a touch.

**C.** 1. ɛ-ma wo honam ani yɛ sɛ **nahanaha**
3SG INAN-make 2SG SUBJ skin face do like IDEO
*It makes your skin brighter.* (Advert on Pure Skin Body cream.)

2. *Chocho* a-ma aman-foɔ re-kɔ *skin to skin* … **sokooo**[41]…
Chocho PERF-make nation-people PROG-go skin to skin … IDEO…
*chocho has given people smooth skin…* (Advert on Chocho cream)

3. Wo-bɛ-hwɛ no na wɔ-de wɔn mowere **gingaw** ayɛsɛ…
2SG OBJ-FUT-see DEF and 2SG OBJ-take 3PLU SUBJ nails IDEO like
*Before you realise, they come with their sharp long nails like …* (recorded voice)

In the examples above, *nahanaha* represent the touch of smoothness; *sokooo* represent a touch of smoothness and *gingaw* represent a very sharp sensation. The advertisers use these

[40] Fufu is prepared by pounding in a mortar.
[41] Sokooo as an Akan ideophone can also have different meanings. For instance in the popular Akan song; "sokooo na ɛmaa pɛ", here the meaning is rosy or riches or wealth.

ideophones to convince the listeners that their products are able to give the user a sense of completeness in their skin. Below are other ideophones for touch in the Akuapem Twi.

*gyiriwgyiriw*- rough surface
*fekɔfekɔ*- smooth
*kikiriw*- rough surface
*gyirumgyirum*- not very smooth
*fɔɔm*- very cool surface
In these examples, reduplication is again manifested. Whereas *gyiriwgyiriw, fekɔfekɔ* and *gyirumgyirum* have total reduplication, *kikiriw* has partial reduplication (*kiriw* cannot stand alone as an ideophone) and *fɔɔm* is a unitary event. The above examples are the perceptual sounds that are derived from touching the surfaces.

### *5.3.3 Iconicity in ideophones for smell*

The sense of smell is also iconically represented in the ideophones of Akan. Dingemanse (2011a:202) on the ideophones of Siwu used some stimulus to extract the ideophones for smell in Siwu. This research work however did not use stimulus to extract the ideophones but relied mainly on recorded radio data, observations and interviews. The derived ideophones for smell in the Akuapem Twi are as follows;
*Nyãn*- fetid (can be reduplicated as *nyãnnyãnnyãn* -extremely fetid)

*Kãnkãn*- bad odour/foul-smell (can be reduplicated as *kãnkãnkãn*- extreme foul smell)

*Hũam*- good aroma/pleasant smell (can be reduplicated as *hũahũahũam*- very good smell)

The speakers of Akan generally describe the smell of perfume as *hũam*; the smell of rotten food and of excreta as *kãnkãn;* and the smell of fresh fish about to go bad and a sweaty body as *nyãi.* The smell ideophones are also reduplicated to show the intensity of the smell. Thus the ideophone can mean extremely pleasant or extremely bad. The nasalised vowels used in these ideophones show that they have a relation to the sense of smell (cf. chapter 2, section 2.5.6).

### *5.3.4 Iconicity in ideophones for vision*

The perceptive visual states in Akan and the Akuapem Twi are represented with ideophonic words that describe the clarity or the otherwise of the view. The ideophones for vision have a

relationship with light. These ideophones were gathered mostly from the recorded advertisement and some few that the researcher gathered from other informants.

**D.** 1. Wimu **yerɛwyerɛw** saa ne adesae.
sky IDEO (lightening) continually till evening
*There was lightening till evening*.

2. honam **hyerɛnhyerɛn** w'-ani bɛ-gye ho
skin IDEO 2SG SUBJ-eye FUT-take OBJ
*glowing skin you will like it* (Advert on Higher Men)

3. awia si so **gã̃nzei** na wo-ahyɛ pantaloon ne sweater
sun set on IDEO and 2SG SUBJ-wear pantaloon and sweater
*the sun is shining IDEO, you wear pantaloon and sweater* (Advert on Chocho cream)

*Yerɛwyerɛw* represent the intermittent lights that appear in the sky and *gã̃nzei* refers to high intensity of sunlight that makes it impossible for people to even look up to the sky. *Hyerɛnhyerɛn* represent a glowing vision. Other vision ideophones include;

*korangyee*- clear (in relation to water)
*kumɔɔ*- poor visibility (darkness)
*kusuu*- cloudy
*kabii*- darkness
*hãn*- brightness
*fãi*- clarity
*nyinamnyinam*- sparkling (Agyekum 2008:114)

The above ideophones are created from the perceptual view one has and these sounds represent the view. These are relative iconicity because they have "a relation between multiple signs that has a resemblance to the relation between multiple meanings" (Dingemanse 2011a:170). The vowels employed in these ideophones contribute to their iconic nature. The open vowel [a] depicts brightness and the back and closed vowels [u, ɔ, i] depict darkness. (cf. Ofori 2009:28ff on vowels and vowel usage in Akan ideophones).

### *5.3.5 Iconicity in ideophones for movement*

These in Akuapem Twi (and Akan) describes the movement of an entity with ideophonic sounds that are derived from the sound or the action of the movement. There can be an overlap between the ideophones of sound and the ideophones of movement because some

ideophones actually fall within the two. The ideophones of movement are highly iconic in their interpretation and examples and meanings of some of the movement ideophones are below;

**E.** 1. Abofra no de **hwimhwimhwim** kɔ-fa-a aduane no di-i.
child DEF take IDEO go-take-COMPL food DEF eat-COMPL
*The child walked briskly/swiftly and took the food and ate.*

Here, *hwimhwimhwim* (reduplicated to show intensity) actually describes the brisk nature of the movement. In the Akuapem Twi (and Akan in general), *hwimhwim* means fast, brisk, swift and it carries the idea that the movement was very sudden. *Hwimhwim* is also the sound that one makes when one is walking very fast.

2. **Hwimhwim** ade kɔ **srɔsrɔ.** (an Akan proverb)
IDEO thing go IDEO
*Swiftly gained things are lost swiftly*.

*Srɔsrɔ* just like *hwimhwim* also carries the meaning of swiftness. However, *srɔsrɔ* does not carry the meaning of being sudden. The movement of *srɔsrɔ* is swift but its presence is felt longer than the movement of *hwimhwim*.

*3.* …mo ɛ-bɛ-yi bola no a-gu ha sei-ara **santan**.
2PLU SUBJ 3INAN SUBJ-FUT-take rubbish DEF PERF-lie here like-that IDEO
*they have dumped the rubbish here IDEO* (recorded voice)

The ideophone *santan* shows the movement in which the rubbish was dumped. *Santan* also carries the meaning of a speed and a bang that came with the movement.

4. wo-bɔ no **gunaguna** wo-te *feelings*!
2SG SUBJ-drink DEF IDEO 2SG SUBJ-hear feelings
*If you drink it (IDEO) you have feelings.* (Advert on Voltic water)
5. wo-frɛ ara **pa** na ɛ-da mu *clear*…
2SG SUBJ-call only IDEO and 3SG INAN-lie inside clear
*gets your calls through at a very fast pace.* (Advert on Airtel mobile network)
6. UN mpanimfoɔ **dɛsɛdɛsɛdɛsɛ** ba du ɔ-man mu ha…
UN leaders IDEO come reach 3SG SUBJ-nation inside here
*Leaders from the UN arrived (IDEO) to the country…* (recorded radio news)

7. … ade dɛɛdɛ yen-fa nyi **kɛkyɛ**…
something sweet 3PLU SUBJ-take do/make IDEO
*something sweat for a skillful move…*(extract from the Akan song "Ghana Girls")

*Gunaguna* is the sound that comes out of the throat when one is drinking water, *pa* is a movement in a very fast pace (the speed of light). When it is reduplicated *(papapa)* it means to do things very quickly or suddenly (intensified). The ideophone *dɛsɛdɛsɛdɛsɛ* describes a sluggish movement of an individual or a group and *kɛkyɛ* is a stylish dance move or a skillful movement. *Kɛkyɛ* is the rhythm that goes with the move (gestalt ideophone). Other ideophone for movement in the Akuapem Twi are;

*bɔkɔɔ/berɛw*- slowly
*nyaa*- slowly (the length of the final vowel is symbolic of the duration of the movement).
*twiritwiri*- dragging of feet (reduplicated for intensity)
*pampam*- to move briskly and energetically (gestalt ideophone)
*yɔɔ*- movement without impediment (the open syllable expresses an unimpeded movement)
*hamham*- to move food very fast in one's mouth (gestalt ideophone)
*bo-bo-bo* -to gulp water forcefully (Agyekum 2008:105)
*dwondwondwon* - to move noisily (Agyekum 2008:106)
*waka*- to rise quickly (Agyekum 2008:112)
*wurudu*- to force something into a hole (Ofori 2009:23)

### *5.3.6 Iconicity in ideophones for size and shapes*

This category of ideophones depicts the size and shape of the entity that is being described. The size and shape ideophones are usually a description of the relative size or shape of the entity and they sometimes have a close link with the other classes of ideophones mentioned above. For example, the ideophones *manyamanyamanya* and *bagyabagya* describe huge gathering of people but one thing to note is the movement that is involved in this gathering. Dingemanse (2011a:201) on the shape ideophones in Siwu stated that "the shape task sheds light on the expressive resources that speakers use creatively in talking about shape, and hints at the important role ideophones have to play in this domain". Some examples of size and shape ideophones in the Akuapem Twi are as follows;

**F.** 1. Nimpa a-yɛ ayeforo no ase **manyamanyamanya**.
People PERF-made wedding DEF under IDEO
*There is a huge crowd at the wedding.*

2. …anka *pimples* ɛ-sum w'-abodwe **satooo** yi …
before pimples 3SG INAN-lie 2SG SUBJ-chin IDEO DEF
*... you had a clumsy chunk of pimples at your beard…* (Advert on Chocho products)

3. … sɛnie ɛ-bɛ-yɛ a wɔn-bɛ-nya mfaso **peewaa** …
so 3SG SUBJ-FUT-do that 3PLU SUBJ-FUT-get profit IDEO
*so that they can get high profit…*(recorded voice)

*Manyamanyamanya* is a huge gathering of people (reduplicated for intensity) and *satooo* refers to a clumsy chunk of something. *Peewaa* is an ideophone for excessive amount of something and it is from two ideophonic sounds, *pee* and *waa* which mean *satisfied* and *rushing sound/movement* respectfully. The research also realised the following size and shape ideophones in the Akuapem Twi;

*kakraa*- huge/big
*fĩaa*/*tĩaa/hwĩaa*- slim/lanky
*bɛbrɛɛ*- many/much
*krukrudu*- massive/large/huge
*tɛtɛɛtɛr*- flat/plain
*yantamm*- vast

In the above ideophones, the shapes of the lips in producing the vowels also determine their iconic status. Open vowels like [a, ɛ] show that the entity is vast or big; round vowel [u]shows massiveness and the nasal diphthong [ĩa] depicts slimness, lanky etc.

### *5.3.7 Gestural aspects of ideophones*

As stated earlier, the data for the ideophones proved a little difficult to collect from speakers during the face-to-face interviews. The best means was to resort to radio recordings and some few ideophones that were taken randomly from speakers during conversation. However, the few ideophones that were motivated from speakers during the interviews were accompanied with gestures. Unlike the radio recording which was vocal, the personal interviews had an extra touch; the gestures that were presented by the speakers. The common gestural features that were identified were the use of the hands to depict size and shape, the use of facial expression to depict sensory ideophones and the use of the body to depict movement

ideophones. Thus the gestures act as accompaniment to the ideophones. Kunene (2001:183) indicated that "… the ideophone is the closest linguistic substitute for a non-verbal, physical act. I find that this position is given great credence by the fact that such physical acts, by which I mean self-conscious gestures and other imitative acts, are more often than not seen to accompany ideophones and, indeed, sometimes to replace them completely". It is possible to add the fact that the ideophones are sometimes made more explicit with the gestures that are attached to it. In this thesis, iconicity is revealed in two languages that are rendered differently; i.e. whereas one is spoken, the other is signed and we can conclude that spoken language makes extensive use of gestures during communication. Below are some gestures that accompany the ideophones;

1. Arms stretched wide e.g. *yantamm* (vast), *kakraa* (big/large) etc.
2. Arms move up and down (briskly) e.g. *manyamanya* (huge crowd), *pampampam* (walking energetically) etc.
3. Change in breathing pattern (panting) e.g. *hamhamham* (to eat very fast) etc.
4. Depiction of movement (slow and fast) e.g. *nyaa* (slow), *hwimhwim* (swifty) etc.
5. Facial gestures; the shape of the lips (rounded/unrounded) e.g. *ko-ko-ko* (drops of liquid intermittently), *fĩaa* (slim) etc.

The gestural aspect of ideophones is also reported in Dingemanse (2011a:345ff) for Siwu (a Ghanaian language) and Smoll (2014:78ff) for Katuena (an Amerindian language). Dingemanse mentioned deictic gestures (pointing gestures), emblems (conventionalised gestures), depictive gestures (depict aspects of the scene) and beats (up and down movement of the hands).

### 5.4 General Discussion

According to the information given in the previous chapters, we acknowledged the fact that iconicity is a general feature of human language. Paradigmatic iconicity which deals with the internal structure of the linguistics form as imitation of the idea or concept was revealed in the icons of the AdaSL and ideophones of Akan. In sign language, iconicity is revealed through the images and gestures that try to depict all or part of the entity being described. Furthermore, we also saw that the AdaSL iconicity is revealed in different aspects of the language and the motivation is to create a mental image of what the signer has in mind. In spoken language, iconicity is revealed in the paradigmatic, syntagmatic and pragmatic levels. This thesis focused on sound symbolism which is part of the paradigmatic iconicity. The

iconic image created might not be too vivid but it tries *to mirror the entity been depicted in whole or in part through cognitive process of mental pictures*. This is the extent of the iconicity found in the iconically motivated signs of the AdaSL and the ideophones of Akuapem Twi.

In general, iconicity in both the sign and the spoken languages of the Adamorobe community creates an economical effect. Thus the speakers and signers economise their conversation by using iconic features. Iconicity as a phonological feature or a gestural feature is time bound i.e. *rapid fading* (Hockett 1963 cf. chapter 3, section 3.3.1). One most important thing to note is that language as a tool for communication can be used pictorially or arbitrarily. There exist both iconic and arbitrary features in the AdaSL and the Akuapem Twi.

The iconically motivated lexemes/signs of the AdaSL and the ideophones of the Akuapem Twi are all different realisations of iconicity in the two languages. Whereas the AdaSL relies on the hand configuration, the location and other nonmanual markers to highlight its iconicity, the ideophones of the Akuapem Twi rely on sound symbolism (and are sometimes complemented by the gestures that are used). The major role of human language is to communicate and this is done by using a *code* that conveys the messages. If communication is the major aim of language then, icons are definitely the best means to express our ideas and thoughts. In the Adamorobe community, the hearing and the deaf co-exist and the iconicity in their languages is defined by the means of production.

The relationship between the AdaSL and the Akan is seen in the compound signs of the AdaSL. Most of the iconic compounds of the AdaSL have their roots in the Akan language, i.e. the Akan definitions of such words. For example, CONFUSE is a compound word in Akan, i.e. *adwen/ntanta* (mind/twists) CHURCH as a building in the AdaSL is a compound word based on Akan, i.e. *asɔre dan* (worship/house). This is clearly an issue of overlap within the two languages, i.e. Akan and the AdaSL. The GSL renders CHURCH differently without any reference to WORSHIP or HOUSE.

| **AdaSL Sign** | **Akan word** |
|---|---|
| CONFUSE (THINK^HAPHAZARD) | adwentanta- adwen+ntanta (twisted mind) |
| CHURCH (WORSHIP^HOUSE) | asɔre dan- worship+ house |

The influence of Akan on the structure of the AdaSL is also seen in some of the nonmanual mouthings (sounds) that are added to the signs. Examples are:

| **Concept** | **Nonmanual mouthing (sound)** |
|---|---|
| RICE | *ɔmo* (Akan word for *rice*) |
| COME | *bra* (Akan word for *come*) |
| SLEEP | *da* (Akan word for *sleep*) |
| GO | *kɔ* (Akan word for *go*) |
| <ONE CEDI> | *kɔkɔɔ baako* (Akan phrase for *red one*) |

The AdaSL is an autonomous language with its own mode of realisation, nevertheless, it has been influenced greatly by the Akan language (which is the majority language used in the Adamorobe community) and it is even manifested in some of its iconic structures.

### *5.4.1 Discussion on the AdaSL icons*

The icons in the AdaSL are a demonstration of the existence of an image-form-meaning-mapping relationship between a concept and the meaning. The hand configurations and the facial expressions are used to carry the message across in a certain degree of iconic rendering. In the AdaSL, we found out that size and shape is represented through the hand configuration. This is very significant for sign languages and this phenomenon has been realised in most sign languages of the world. As we saw in the chapter 3, the Italian Sign Language also realises flat surfaces like TABLE, FLOOR and CARPET with a common hand configuration (Pietrandra & Russo 2002:6). The realisation of time in most sign languages is dependent on spatial deixis. Thus the signer always becomes the referent point and the 'past' is behind the signer and the 'future' is ahead of the signer. The present is realised at the signer's current position in relation to the human body. In the AdaSL, the hand goes back for YESTERDAY and moves forward for TOMORROW. The AdaSL is very similar to the ASL in the realisation of time signs (though different handshapes and orientations are used). This is attested by Alkoby's work on the tenses in the ASL. She stated that "the FINISH sign is used to indicate past tense or actions that have been completed …" (Alkoby 1999:3) and the AdaSL uses the FINISH sign (as shown in fig. 5.10) to indicate past tense or completion.

Furthermore, emotive and cognitive concepts in most studied signed languages are very iconic. As we saw in the chapter 3, the signs for THINK, KNOW, FORGET, UNDERSTAND etc. in the GSL are realised on the forehead, i.e. they have a relationship with the mind. In the same way the signs for HAPPY, PLEASURE, FEEL, LOVE etc. are also realised on the chest in the GSL. These phenomena are also found in the AdaSL and as we saw in section 5.2.3, most cognitive words have a relationship with the mind and some emotive words have a

relationship with the chest. Even those that did not generally follow this trend still had iconic motivations. For instance, the sign for AGREE in the AdaSL is not realised at the head but the coming together of the two palms signify unity. On verbal directionality, the movement of the signer's hand is dependent on the message that is being conveyed. Thus when the verbal movement is towards the signer (←), the direction of the sign is to the signer. However, when the verbal movement is away from the signer (→), then the direction of the signer's hands is other than towards him. Up, down, forward and backward movements of the verbs are all dependant on the signer-addressee-object locations. Indicating and depicting verbs in the AdaSL were found to be directional in their representation. Thus, there is image-form-meaning-mapping relationship in the iconically motivated verbs that mark agreement in the AdaSL.

### *5.4.2 Discussion on the Akuapem Twi ideophones*

On the ideophones of the Akuapem Twi, this study also realised that they also create an image-form-meaning-mapping relationship. They have iconicity of sound symbolism which was the first approach in the Haspelmath's iconicity in language discussed in the chapter 3. Thus the onomatopoeic ideophones in the Akuapem Twi "… operate in a situation where the signified event and the linguistic signifier coincide" (Agyekum 2008:101). In this chapter, we realised six categories of ideophonic iconicity in the Akuapem Twi (and Akan) based on the implicational hierarchy (cf. chapter 3, section 3.4.4). This study did not exhaust all the possible realisations of iconicity in the ideophones of Akuapem Twi.

The examples of ideophones given have showed that ideophones are highly iconic part of Akuapem Twi (and Akan in general). These sounds paint a vivid image of what the speaker has in mind (like onomatopoeia and phonesthemes in English and other languages). Speakers of Akuapem Twi and the other dialects of Akan employ ideophones in daily communication with each other. Eloquent public speakers of Akan use the ideophones to grace their speeches. News reading in the different Akan dialects has a rich flare of ideophones that spice the language. The English glosses of the ideophones were improvised to make the translation easier. The ideophones are best understood in their raw states. Dingemanse (2011b:42) attested that "the clunky English glosses are provided out of necessity, but one should really pronounce the words to appreciate the rich bouquet of meanings they embody in their singular form". As indicated in section 5.3.7, the ideophones of the Akan are sometimes accompanied by gestures that add extra iconic flare to them. The gestures can be a depiction of the action,

pointing gestures, conventionalised gestures up and down movement of the hands (cf. Dingemanse 2011a:345ff). The addition of gestures to the ideophones buttress the point that "co-speech gestures, though non-linguistic, are produced in tight semantic and temporal integration with speech and constitute an integral part of language" (Perniss et al 2015:2).The table below gives a summary of the ideophones in the Akuapem Twi and their iconic manifestations as presented in the data;

| **Category** | **Meaning** | **Iconic features** | **Examples** |
|---|---|---|---|
| Sound ideophones | They depict the sounds that are produced by human actions and by animals. They are highly iconic in their representation. They also depict the actions that accompany the sounds. | The sounds are direct to the activities being portrayed. The sounds are sometimes used to refer to the actions. | *Gagagaga*- pain<br>*Ngaa-ngaa*-cry of a baby<br>*kaĩ*- o'clock<br>*Pitapita*- pounding fufu |
| Touch ideophones | They reflect the sensation that comes with a touch. The relative texture of the entity is described based on the perceptual feelings that speakers get when they have an encounter with such surfaces. | The sounds are derived from touching different surfaces. The sensation felt by the speaker is converted to the ideophone. The sounds mimic the sensation. | *fekɔfekɔ*-smooth<br>*kikiriw*-rough surface<br>*gyirumgyirum*- not very smooth<br>*fɔɔm*- very cool surface |
| Smell ideophones | These ideophones are a depiction of the sensation that one feels after smelling something. | The sounds have nasals or nasalised vowels to depict the connection to the sense of smell. | *hũam*-pleasant smell<br>*nyãn*- fetid<br>*kãnkãn*- bad smell |
| Vision ideophones | They are a depiction of the perceptual states of the eyes. What is seen by the eye(s) is converted to ideophones to represent them. | The sounds are iconic to what the speaker experiences in the sight in relation to light. | *korangyee*- clear<br>*kusuu*- cloudy<br>*kabii*- darkness<br>*hãn*- brightness |
| Movement ideophones | They represent the sounds that are involved in a movement i.e. the resulting sounds/echoes. | Most of them are gestalt and they have the durative aspect of the movement. | *santan*- rapid<br>*kɛkyɛ*-skillful<br>*pa*- fast pace<br>*pampam*-briskly |
| Size and shape ideophones | These depict the relative size and shape of an entity. Through the use of the vowels, the size or the shape of the entity is given a vocal pictorial representation. | They are iconic of imitating how large or how small an entity is in relation to its height, breadth, length, width etc. | *kakraa*-huge/big<br>*fĩaa/tĩaa/hwĩaa*- slim<br>*bɛbrɛɛ*- many<br>*tɛtɛɛtɛr*- flat/plain<br>*yantamm*- vast |

**Table.5.7 Summary of the ideophones**

### 5.5 Levels of Iconicity

Baker-Shenk (1991:37) quoted that "there are degrees of arbitrariness and iconicity". Thus when a symbol is less than an exact physical replica of the thing, the symbol becomes less iconic and more arbitrary and vice versa. The iconic scale begins from a level of High in iconicity to Medium in iconicity and finally to Low in iconicity (cf. Baker-Shenk 1991:37-38). Fischer defined iconicity as "any case in which a linguistic form to *some degree* resembles the object or concept" (Fischer 2006:18). Thus there is a higher tendency that complete or total resemblance of the *linguistic sign* to the *signatum* (object/concept) will be far-fetched. In this thesis, the levels of iconicity in concepts are taken on a 5-LEVEL ICONIC SCALE; High = 5-4; medium = 3-2 and low= 1. This iconic scale was developed personally to aid in the classification of the signs into levels. The level 5-4 on the scale is the highest iconic replica of the object and level 1 is the lowest iconic replica[42]. This section presents the levels or degrees of iconicity as found in the data i.e. the level at which the linguistic form replicate the concept or entity that is being represented. The iconic scale is represented below with my rendition of the upside pyramid. The section marked **HIGH** is generally iconic and has a greater representation of the entity. The section marked **LOW** is less iconic (but not arbitrary) as compared to **MEDIUM**. After LOW, the linguistic sign becomes symbolic or arbitrary.

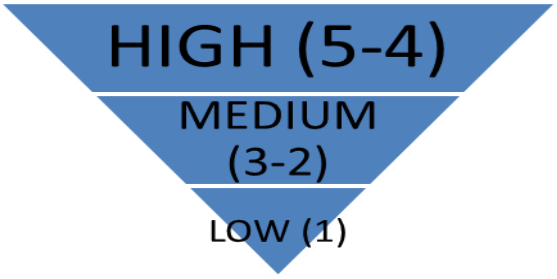
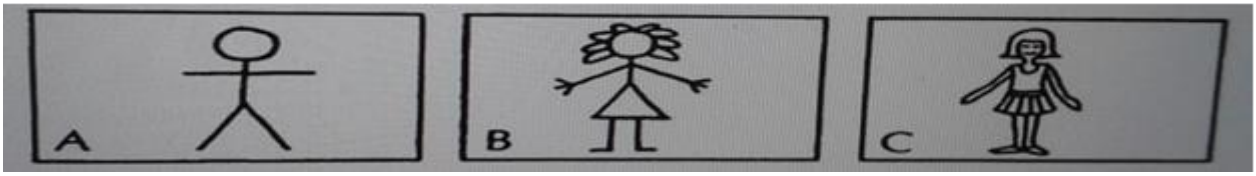



**Fig. 5.15 The iconic scale**

There are levels of iconic coding in languages; while some structures are highly iconic, other structures are minimally iconic. The Highly Iconic Structures (signed or spoken) need little cognitive effort for comprehension. As indicated in the examples from the ASL and GSL given in the chapter 3, concepts like HOUSE, SIT, EAT etc. are iconic in the way they are

[42] This work chose 5 to be the highest iconic level with an *observational error* of -1. Observational error (or measurement error) is the difference between a measured value of quantity and its true value (Dodge et al 2003). The term *error* in statistics does not imply a mistake, but the deviation of the observed values and the actual values. The possibility of a total or complete iconicity in the sign is far-fetched as stated by Fischer (2006). Thus the concepts that are ranked HIGH on the iconicity scale could have an iconicity range of 5-4.

signed. In English, the meaning of words like *bang, buzz, hiss, bump* etc. are glary revealed in the associated sound pattern. These onomatopoeic words have higher levels of iconicity because their meanings are identified when the sounds are heard.




1**…….ICONIC SCALE……..5**

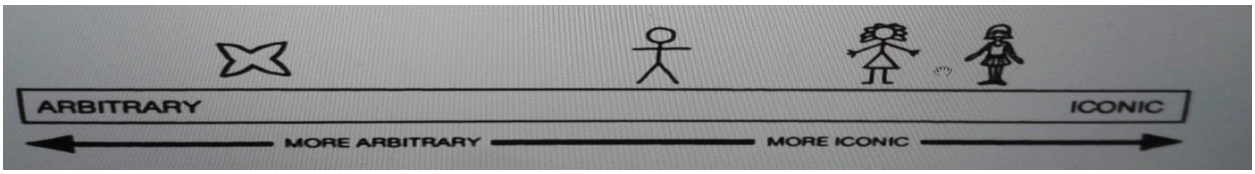



**Figure 5.16 Levels of iconicity (cf. Baker-Shenk 1991:37ff)**

On the iconic scale, image C is higher than image B and image B is higher than image A. The sign becomes arbitrary (symbolic) after it has crossed the level of the image A. Figure 5.20 will work perfectly for determining the iconicity in sign languages, i.e. how much the sign represent the image being denoted. In spoken languages, there are some concepts that are higher on the iconic scale than others. With ideophones, their iconicity is realised in how much the sound symbolism represent the denoted entity. Whereas some sounds are direct imitation of the sounds derived from an action, other ideophones are created out of the perceptual feelings that one experience from an event or action. The ideophones that represent sounds (sound ideophones) will be higher on the iconic scale than those that are created out of the perceptual feelings that one has after an experience.

Focusing on our current discussion on the AdaSL iconic motivated signs and the ideophones of Akuapem Twi, we can make the claim that there are levels of iconicity in both. For this thesis, the highly iconic concepts will be on the 5-4 scale, medium 3-2 and low 1.

### *5.5.1 High in iconicity*

The iconically motivated signs in the AdaSL have concepts that are very high in iconicity, thus they are 5-4 on the iconic scale of 5. Some of the size and shape concepts are very high in iconicity. Sallandre & Cuxac (2002) attested that entities representing size and shape are very iconic (ibid, pg. 174). The sign for BINOCULARS as shown in the animated movie *Canary Row* was signed by the informants with the two hands depicting a pair of binoculars. The sign

for BIG in the AdaSL shows an opened arms (size of the entity) with the nonmanual mouthing *abo* (agbo) which is the Ga word for *big*. The sign for BIRD is the shape of a bird in flight. Figures 5.21 show some AdaSL HIGH in iconicity signs and what they try to depict.

The iconicity in sign languages is very visible to different sign languages. A signer of the GSL who had no idea of the AdaSL was also interviewed and some of the findings on high iconic features are represented in fig. 5.22.

Imagic iconicity is highly revealed in the signs that are high on the iconic scale. As discussed in the chapter 3, there are signs that are created with *iconic intent* (cf. Sallandre & Cuzac 2002) and BINOCULARS is one of such. This sign does not exist in the AdaSL but the signers tried to iconise what they saw with signs that are "representation of the perceptual world" (Sallandre & Cuxac 2002:174). This "constructed action" (Wilcox, S., & Xavier, A. N. 2013:100) with time becomes lexicalised into the grammar of the language as a Highly Iconic Structure. Constructed action events may begin life as gestural depictions, their repeated use by signers in certain contexts and genres leads to schematization (ibid). Cognitive words that are highly iconic include THINK, UNDERSTAND, CONFUSE, FORGET etc. (these signs have relation to the mind).


**BINOCULARS** **BIRD** **BIG**

**Fig. 5.17[43] Salient iconic features in the AdaSL HIGH in iconicity signs**

[43] cf. Appendix for examples from other sign languages.

**BINOCULARS (GSL)** **THINK (GSL)** **THINK (AdaSL)**

**Fig. 5.18 Cross-linguistic iconicity (GSL and AdaSL)**

In the same way the ideophones in Akan have a higher level of iconicity than other words in the language. There are some ideophones that are higher on the iconic scale than others (i.e. 5-4 on the iconic scale of 5). The ideophones that depict sounds are HIGH on the iconic scale because they create a *higher iconic* relationship between the form and the meaning. For instance, the ideophone *kum* in the Akuapem Twi is the exact sound that is made when something or someone hit the floor suddenly. The examples below are very pictorial in the representation.

*kum*- something or someone has fallen down suddenly

*ngaa-ngaa-ngaa*- a new baby is crying

*kãi*- the clock has hit the hour

*wow-wow*- a dog is barking

According to Dingemanse, the recurring point about ideophones is that they are pervasively iconic but he also emphasised that "not all ideophones show transparent form-meaning mapping for there is a limit to iconic representational powers of speech" (Dingemanse (2011a:165). He stated (cf. chapter 3) that imagic iconicity is the mimicking of sound in the real world. This thesis has shown that sound ideophones are highly iconic as compared to the other categories that were identified and the reason is that sound ideophones are highly imagic in their representation.

### *5.5.2 Medium in Iconicity*

The second group in the hierarchy refers the concepts that are also iconic but their iconic representation is lower than the highly iconic concepts. This group also creates a depiction of the entity but they are medium on the iconic scale (3-2 on the scale of 5). In the AdaSL, the

signs that were identified to be medium on the iconic scale were signs with synecdoche (part-whole) reference and time expressions.

The medium iconic structures include the sign for SUNDAY which is signed with the hand movement of an opened book. The opened book can mean a BOOK or the BIBLE and the iconicity revealed here is overshadowed by other referential meanings of the shape of the hand. This makes the sign medial on the iconic scale because the *opened book* acts as a synecdoche of the Bible that is used on SUNDAY. Other concepts on the mid of the iconic scale in the AdaSL are the sign for WOMAN and MAN. These two signs are iconic, but the depiction of the breast and the touching of the chin can also lead one astray. The context of the conversation has to determine that the signer is not just signing the breast or the chin, but signing WOMAN and MAN respectively. The sign for MONTH is medial on the iconic scale because the crescent can also represent the moon. The expression of time is also medial on the iconic hierarchy; the time line takes it meaning form the conversation. For instance, the space in front of the signer can mean TOMORROW, LATER, <NOT NOW> etc.

**Crescent for MONTH** **Beard for MAN** **opened book for SUNDAY**

**Fig.5.19 Salient iconic features in the AdaSL MEDIUM in iconicity signs**

Some of the ideophones discussed above have medial iconic representation. These ideophones do not give "an exact physical replica" (Baker-Shenk 1991:37) of the entity or the action. These ideophones are diagrammatic in iconicity, i.e. they have gestalt or relative iconicity (cf. Dingemanse 2011a). Ideophones with medium iconicity include some size and shape ideophones, the movement ideophone and the vision ideophones. The size and shape ideophones generally have an extra-linguistic marker i.e. the gestures that are added. These gestures have visual iconicity. The gestural expressions that are added to these ideophones give them picturesque representation. These ideophones are medial on the iconic scale because *they are not imagic* and extra information is needed to make them more visible in their interpretation. The ideophones below are on the middle of the iconic continuum;

*kumɔɔ*- poor visibility (vision ideophone)
*kusuu*- cloudy (vision ideophone)
*kabii*- darkness (vision ideophone)
*pampam*- to move briskly and energetically (movement ideophone)
*yɔɔ*- movement without impediment (movement ideophone)
*hamham*- to move food very fast in one's mouth (movement ideophone)
*krukrudu*- massive/large/huge (size and shape)
*tɛtɛɛtɛr*- flat/plain (size and shape)
*yantamm*- vast (size and shape)

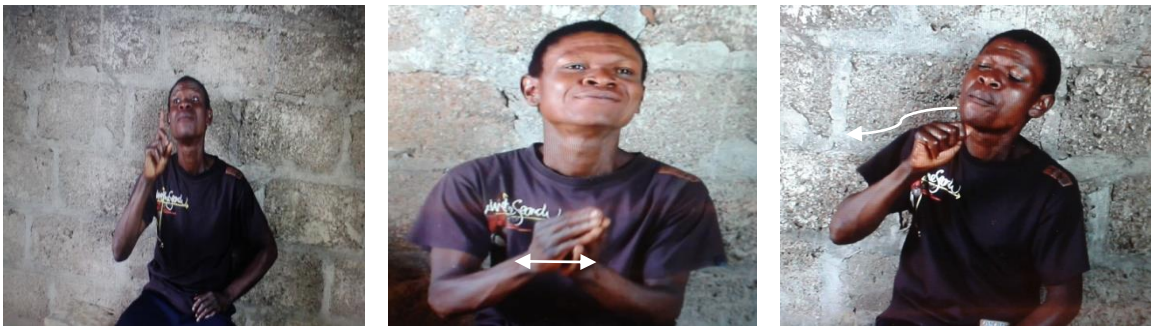
When the weather is cloudy (*kusuu*), or the visibility is bad (*kumɔɔ*), it does not generate any sound pattern but these ideophones are given based on how people perceive such conditions and the shape of the vowels, i.e. relative iconicity. The movement ideophones have durative depiction of the event, i.e. they have gestalt iconicity.

### *5.5.3 Low in Iconicity*

The concepts that were identified to be low in iconicity are "less than an exact physical replica of the thing it represents" (Baker-Shenk 1991:37). They are very less in iconicity and on the scale of 5, they are on level 1. An example of the low in iconicity sign in the AdaSL is the sign for <ONE CEDI>. Though the signers' handshape shows a one finger, it could be one of anything. However, this particular one handshape combined with the nonmanual mouthing (*kɔkɔɔ baako*- red one) means <ONE CEDI >[44]. One other sign that is low in iconicity in the

[44] The one cedi note is red paper Ghanaian currency and the deaf try to mimic the sound for red and one as they sign. This can be also under the influence of the hearing signers.

AdaSL is AGREE which is signed by bringing the two hands together. This sign is not so explicit because the two hands coming together can mean different things, e.g. to shake someone. Another low in iconicity sign is <WON'T GIVE>. The signer adds facial expressions to show displeasure but it iconicity is not as glare as the sign for GIVE. The directionality of <WON'T GIVE> is from the signer to the addressee but the location is the chin.



**<ONE CEDI>** **AGREE** **<WON'T GIVE>**

**Fig.5.20 LOW in iconicity signs in the AdaSL**

The touch and smell ideophones were the least on the iconic scale. Their iconic status is dependent on the *previous knowledge of an event or a tangible or a visible sensation*. These ideophones are diagrammatic in iconicity. Examples of the low in iconicity ideophones are;

*fekɔfekɔ*- smooth (touch ideophone)
*kikiriw*- rough surface (touch ideophone)
*gyirumgyirum*- not very smooth (touch ideophone)
*Nyãn*-fetid (smell ideophone)
*Kãnkãn*-bad odour/foul-smell (smell ideophone)
*Hũam*- good aroma/pleasant smell (smell ideophone)

Using the *implicational hierarchy*, we can identify that the levels of iconicity in the ideophones of the Akuapem Twi follow the same trend; SOUND < MOVEMENT < VISUAL PATTERNS < OTHER SENSORY PERCEPTIONS < INNER FEELINGS AND COGNITIVE STATES. On a scale of 100% iconicity, we will notice that the sound ideophones are 100% iconic (sound ideophones are highly imagic in their representation). The

movement ideophones 80%, the size and shape ideophones 70%, the vision ideophones 60%, the touch ideophones 50% and finally the smell ideophones 40%[45].

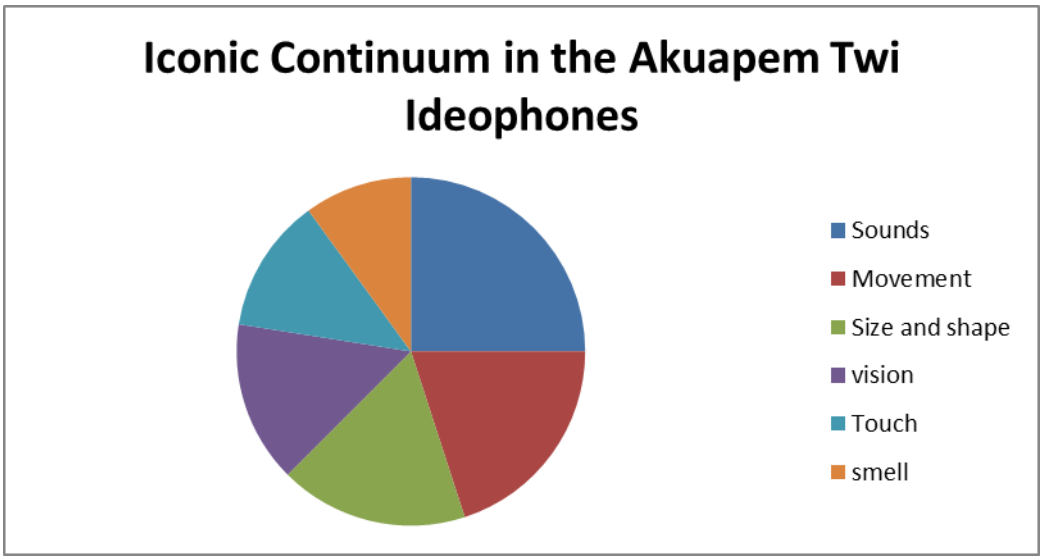



**Chart.5.2 Iconic Continuum in the Akuapem Twi ideophones**

### 5.6 Chapter Summary

This section gave a detailed description of the data that were taken and discussed some relevant points that were derived. This chapter presented the data and discussed issues from the data based on the research questions. Both the iconically motivated signs in the AdaSL and the ideophones of the Akuapem Twi are given in-depth analysis to show the iconicity that is revealed in them.

The data description also reiterated the Peircean iconicity in language and debunked the Saussurean arbitrariness (because iconicity was more dominant than arbitrariness in the selected data). Through the presentation of the data, the chapter presented the extent of iconicity and the levels of iconicity and brief information on image-form-meaning-mapping relationship. Image-form-meaning-mapping relationship (i.e. working definition of iconicity in this thesis) in the iconic signs and the ideophones will be discussed extensively in the concluding chapter.

[45] This realisation is based on the few interviews I had with people and personal observations. The iconic continuum scale of the ideophones shows that there are different levels of the perceived iconicity in the ideophones. On the ideophones that depicts the sound of actions; it was very easy for the informants to give its meaning. The smell ideophones were the very least on the iconic scale and this can be attributed to their usage. People seldom use the ideophones on the lower scales as compared to those that are higher on the scale. Thus we can infer and state that the more a group of ideophones is used, the higher it attain on the iconic continuum.

# CHAPTER 6- SUMMARY AND CONCLUDING REMARKS

## Introduction

This investigation has revealed that iconicity exists in the Adamorobe Sign Language and the Akuapem Twi. However, it is revealed in different modalities. The modes of production for the two languages have affected the way iconicity is revealed in each. The visual-gestural and the aural-vocal means of the AdaSL and the Akuapem Twi respectively have contributed to the different realisation of iconicity in the two languages. This section of the work presents the summary of the thesis and also gives recommendations for further research work.

The general discussion in the earlier chapters has been that there is a greater level of iconicity revealed in languages. There is the tendency for users of human languages to use concepts that imitate their ideas and to cast a pictorial representation of what they want to communicate. The use of iconic symbols in human communication is not a modern trend. Human language has been both arbitrary and iconic as long as the creation of language itself. The thesis centred on paradigmatic iconicity which deals with internal structure of the linguistic form as imitation of the idea or concept.

"A religious view on language according to the Christian faith makes the claim that there was only one language at the very beginning, and men could understand each other very well. The different languages according the Bible came as a result of man's ambitious desire to build a tower to reach the heaven (Genesis 11). God was not pleased with that and caused confusion in their language, thus He gave them different languages and because they could not understand each other, they stopped the tower and scattered all over the earth. The name of the tower was then called "Babel" meaning "to jumble". Thus the name of the tower is iconic of its referent"[46]. According to Perniss et al, "the idea of arbitrary connection between form and meaning is generally associated with Saussure, but, in fact, John Locke established a firm foothold for the idea much earlier when he argued in his Essay Concerning Human understanding (which was first published in 1690) that the existence of different languages (with very different words for the same objects) is evidence against a "natural" connection between form and meaning" (Perniss et al 2010:3).

[46] Quoted from my paper "Iconicity in the Ghanaian Sign Language and the Adamorobe Sign Language" submitted on autumn 2013.

This thesis also stated that there is a relationship between the spoken languages and the sign language of Adamorobe. This is seen in the compound signs of the AdaSL and the mouthing (voiced words) that are used by the deaf people in their communication. The levels of iconicity portrayed in the Adamorobe Sign Language and the ideophones of Akuapem Twi is not static; some of the concepts are higher on the iconic scale than others.

### 6.1 Summary

This research has revealed that icons are part of human languages and in our day-to-day conversations we manipulate our ideas to pictorial representations. Iconicity is revealed in sign languages through the hand configurations and the movement coupled with nonmanual markers (facial expressions, mouthings etc.) that tend to create vivid images. In verbal languages, iconicity is demonstrated through sound symbolisms like ideophones, onomatopoeia, phonesthemes etc. Other than sound symbolism, syntagmatic and pragmatic iconicity is also revealed in verbal languages. We also realised that both sign and spoken languages have imagic and diagrammatic iconicity. However, signed languages use more imagic iconicity and spoken languages use more diagrammatic iconicity. The AdaSL and the Akuapem Twi are used in the same geographical location and each language manifests iconicity in different modalities.

This thesis sought to find the extent of iconicity in the AdaSL and the ideophones of Akuapem Twi; the levels of iconicity and the image-form-meaning-mapping relationship within the iconic elements. The data that was presented in the chapter 5 of this work revealed the extent of iconicity in both the AdaSL and the Akuapem Twi. The different iconic categories in the AdaSL and the ideophones of Akuapem Twi presented in the data were also an indication that there are levels of iconic coding in languages. The levels of iconicity were dependent on how much the linguistic sign replicate the concept that is being represented. Whereas some of the iconic concepts were high (5-4) on the 5-level iconic scale, some were relatively low (1). Imagic iconicity is revealed in both sign and spoken languages. The sound ideophones were captured as HIGH on the iconicity scale because they are imagic. The AdaSL iconic signs with synecdoche representations were MEDUIM on the iconic scale. The LOW in iconicity concepts for the AdaSL and the ideophones demonstrated less replica of the thing they represented. Although the sign and spoken languages are revealed in different modalities, we found out that the realisations of icons are nevertheless found in the two.

In the AdaSL, the icons gathered ranged from the entities depicting size and shape, time, verbal directionality, emotive and cognitive functions. The Akuapem Twi ideophones data had ideophones for sound, movement, smell, touch, vision, size and shape (based on the *implicational hierarchy*, cf. Dingemanse 2012). The gestural aspects of the ideophones are very iconic in their depiction. According to Wilcox & Xavier "… signed language … and gesture … have fuzzy boundaries and are defined by prototypical and not by criterial features. Because of this, they can overlap and merge in various ways" (Wilcox & Xavier 2013:103). This thesis established that the gestural aspects of ideophones are used to make them more explicit. The fuzzy boundary between the sign and the gesture is that "gesture becomes incorporated into signed languages in several ways, further blurring the boundary between the two systems" (ibid pg. 104). However, for sign languages "what is gesture today may be tomorrow's language" (ibid pg. 108).

The size and shape lexemes in the AdaSL and the size and shape ideophones in the Akuapem Twi both give a pictorial representation of the relative size and/or the shape of an entity. Whereas the AdaSL realises this in the hand configuration, the Akuapem Twi demonstrates this using sound symbolism. The result of this discussion is that human languages, whether signed or spoken, use a great deal of iconicity in its representation. The icons that are used depend on the modality in which the language is produced. Thus, for sign languages like the AdaSL the expected iconicity is revealed in the phonology (handshapes, movement, orientation, location and the nonmanual markers, cf. chapter 2, section 2.4). For a spoken language like the Akuapem Twi, the expected iconicity is revealed in the morphophonology (sound symbolism, reduplication, use of vowels, cf. chapter 2, section 2.5) and the discourse and pragmatic levels (cf. chapter 3, section 3.4).

The language contact within the Adamorobe community has created a linguistic phenomenon of bilingualism; i.e. the hearing signers and the deaf signers communicate with the AdaSL as the lingua franca. "As long as the deaf people remain in the Adamorobe community, a beautiful language of the hands and the face coupled with a verbal language rich with sound symbolism will always remain"[47]. According to one of the hearing informants, the AdaSL is Akuapem Twi (Edward, in progress) and this explains the similarities between the AdaSL and the Akuapem Twi (serial verb constructions, compounding, mouthings etc.).

[47] Coined out of a popular Bible scripture in Genesis 8:22 (NIV version); "As long as the earth endures, seedtime and harvest, cold and heat, summer and winter, day and night will never cease".

### *6.1.2 Image-Form-Meaning-Mapping Relationship*

This thesis established the premise that the iconically motivated lexemes of the AdaSL and the ideophones of the Akuapem Twi create an image-form-meaning-mapping relationship (which is also the working definition of iconicity used in this thesis). The ability to realise the meaning of a concept from the form of the concept is what makes them iconic. The AdaSL iconic lexemes are visible signs that try to depict entities and the Akuapem Twi ideophones are audible signs that mimic something or an action. For example, the sign for the MONTH (interpretant) in the AdaSL which is the depiction of a crescent (denotatum) is linked to the moon (representamen).The moon determines the MONTH in the Akan culture.

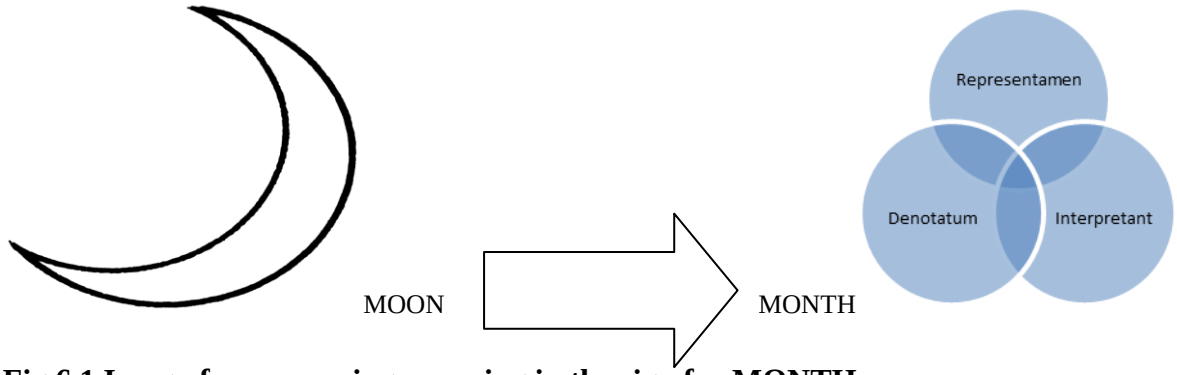



**Fig.6.1 Image-form-meaning-mapping in the sign for MONTH**

The sign for BINOCULARS in the AdaSL share this image-form-meaning-mapping relationship. The AdaSL does not have the sign for BINOCULARS[48] but the informants created a highly iconic structure to represent it with an "iconic intent" (Sallandre & Cuxac 2001:174).

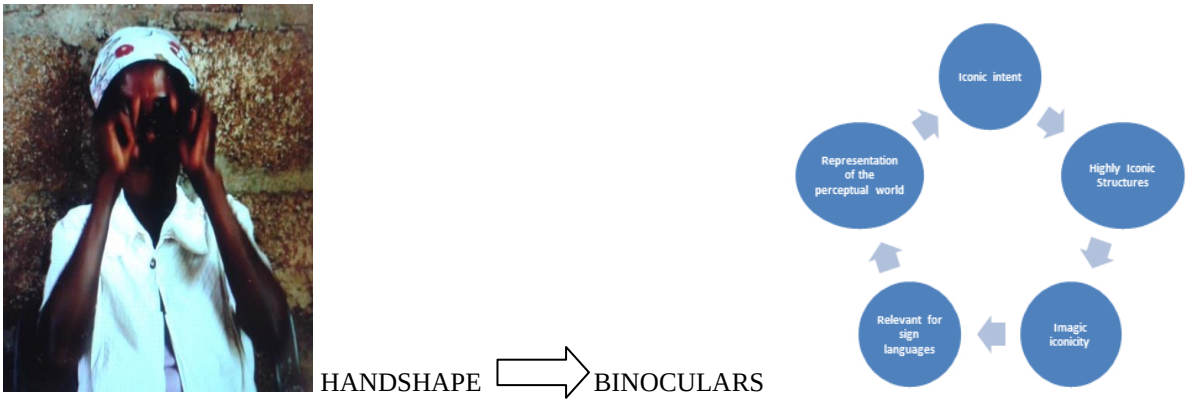



**Fig.6.2 Image-form-meaning-mapping in the sign for BINOCULARS**

[48] An interview with a GSL informant (cf. chapter 5, fig. 5.22) yielded the same sign for BINOCULARS; thus using the hand to create a Highly Iconic Structure to represent the entity that is being depicted.

The relationship between the Image, the Form and the Meaning is also realised in the ideophones of the Akan language. The sound symbolisms create an iconic image in the mind of the speaker and the hearer(s). For instance, with the ideophone *kɔkɔɔkɔ*, the image of a door is created; the form is the knock one makes and the meaning is to get the attention of someone to open the door. As represented in the chapter 3, this triangular relationship can be represented as;

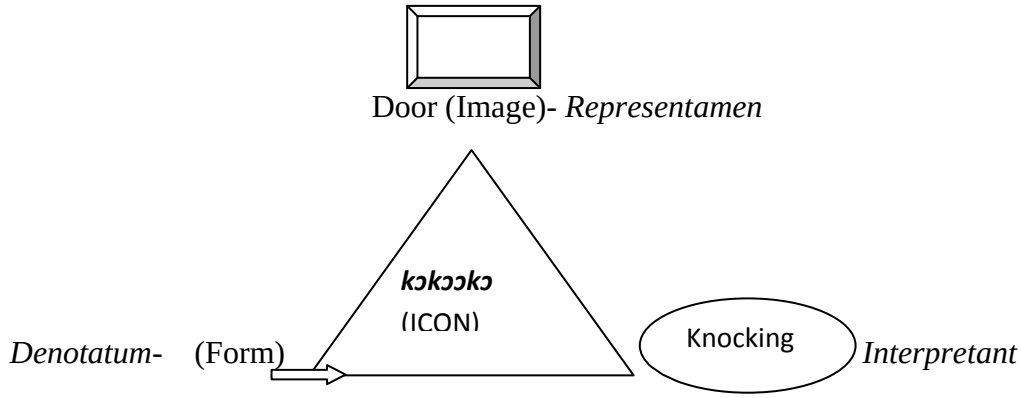



**Fig.6.3 The ideophone on the Peircean three-part sign**

The image can be schematised for all the ideophones that have been discussed in this thesis (although the level of iconicity may vary for each). The image-form-meaning-mapping relationship is revealed through the sound symbolisms that are used. This means that Saussure's claim that the linguistic marker is a combination of two different entities (the SIGNIFIED and the SIGNIFIER), is rejected through the Peircean concept of iconicity. We should however note that both icons and arbitrary elements exist in language and the two complement each other. The existence of iconicity in language does not exclude the notion of arbitrariness.

The iconically motivated lexemes of the AdaSL and the ideophones of the Akuapem Twi in their image-form-meaning-mapping relationship bring out lexical fields in the AdaSL and sound symbolisms in the ideophones. The lexical fields in the AdaSL are revealed in the hand configuration and the location of the sign. The size and shape icons demonstrate an isomorphic relationship between the entity being represented and the sign that is used to represent such entity. The expression of time has the body (in front, back etc.) as the lexical field. Thus future time is situated in front of the body, past time is situated behind the body and current time is with the body. On the issue of emotive and cognitive signs in the AdaSL, the head, the chest and other parts of the body act as lexical fields. Some of the emotive signs

in the AdaSL have relationship with the chest and some cognitive words have relationship with the head. The emotive and cognitive signs that are not realised on the chest and head are complimented by enough facial expressions to reiterate the point made by Lakoff & Johnson (2008:15) that "happy is up; sad is down". On verbal directionality, the lexical fields that are created are spatial, i.e. the body becomes the deictic point and the spaces in front and behind the body are iconically marked. Thus, "salience and stability among arguments may be encoded not only in syntactic terms, but also by visual-spatial means" (Brentari 2011:22) in sign language.

The ideophones of Akuapem Twi uses many sound symbolisms that try to mimic the sound of actions or to create an effect that is isomorphic of the event. "In addition to more direct acoustic links, these iconic, sound-symbolic mappings evoke sensory, motor, or affective experiences or characterise aspects of the spatio-temporal unfolding of an event. In fact, the majority of the sound-symbolic words refer to events or states in which the sound is not essential" (Perniss et al 2002:9). The vowels play important roles in the ideophones of Akan (cf. chapter 2, section 2.5.6). The sound symbolisms that create the image-form-meaning-mapping relationship rely on the shape of the vowels and the nasality of the vowels. Thus smell ideophones have nasalised vowels; size and shape ideophones with vowels that are rounded can depict a round object or heavy objects etc. Most of the sound symbolisms in the ideophones are perceptual and are created to mimic the action or the sound of the action that is being depicted (e.g. movement and sound ideophones) and some also mimic the experience of the action (e.g. vision, smell, size & shape and touch ideophones).

### *6.1.3 Speaking with hands and voices*

Language as used by people could be a combination of icons and symbols. Whereas the icons give pictorial or mental representation of what the speaker is referring to; the symbols are highly arbitrary and it demands that the interlocutors are part of the language community or if possible have a degree of understanding in that language. The higher the iconic relations in a particular language, the lower the arbitrary forms in that language and vice versa. Sometimes, there is a balanced representation of both icons and symbols in a particular language. Sign languages are naturally more iconic than spoken language. Pietrandrea & Russo (2002) stated that, signs that have common handshapes do often share some feature of meaning and citing "TABLE, FLOOR and CARPET" in the Italian sign language as sharing the similar idea of flatness. The English realisation of these words does not indicate that these entities are flat.

One has to know the meanings of these words before the concept of flatness can be attributed. In the same way, the iconically motivated signs of the AdaSL are also very indicative to their meaning. The movement of the hand configuration and the nonmanual markers that are used contribute to create the visible icons of the language.

In Akan, there are some words that explain themselves as stated earlier (chapter 3, section 3.4). For example, *akyerɛwdua* (writing stick- Pen), *asɛnsuo* (that which fetch water- cup) etc. are self-explanatory. These concepts can be found in the AdaSL; some signs are more pointing to what the speaker has mind and their realisation is based on what the sign refers to (cf. chapter 3, section 3.4.1). Akan is relatively an older language as compared to the Adamorobe Sign Language. The Adamorobe Sign Language is estimated to be a little over 200 years old since it is believed to have existed as early as the 18$^{th}$ century (Okyere & Addo 1994). "The degree of iconicity of a sign language is likely to be reflected in the handshape parameter" (Nyst 2007:81), i.e. the iconicity is basically revealed through the hand configuration. This thesis has showed that the movement, the location and the orientation of the handshape contribute immensely to the iconicity in sign languages. The addition of the nonmanual markers in the iconically motivated lexemes of the AdaSL also contributes to making them highly iconic. As we saw in the previous chapter, the addition of the facial expressions to the emotive and cognitive signs of the AdaSL was very significant to making them iconic. Furthermore, "drooping posture typically goes along with sadness and depression; erect posture with a positive emotional state" (Lakoff & Johnson 2008:15). The mouthings and the click sounds of the deaf signers add an extra iconicity to the signs. For instance, the sign for BIG is a depiction of a large entity (highly iconic) and nonmanual marker *agbo* which is the Ga word for *big*.

The ideophones of the Akuapem Twi are more iconic than other grammatical categories and they create an image-form-meaning-mapping relationship between the concepts and their meaning. The iconicity in the ideophones is also contributed by the sounds that are used. As stated in chapter 2, the vowels that are used in the ideophones give the ideophones a distinct realisation. For instance, smell ideophones have nasalised vowels, ideophones depicting sizes and shapes make good use of high, mid, low and front and back vowels etc. Bodomo stated that "the morphology of the ideophone often displays more iconicity and sound-symbolism than other words in the language" (Bodomo 2006:204); iconicity in the ideophones is revealed

through sound symbolisms. Also, "the repetitive structure (of ideophones[49]) is in most cases iconic with the structure of the form" (Ameka 2001:32). For instance, in the sentences below, iconicity is intensified based on the repetitive nature of the ideophones.

1. Kofi di-i aduane no **hamhamham** (Akan example)
   Kofi eat-PST food DET IDEO
   *Kofi ate the food very fast*
2. gbɔ dzi **blewu blewu** (Ewe example cf. Ameka 2001:32)
   breathe heart IDEO IDEO
   *Be patient in a calm and soft way*

The relationship between the *representamen* (the expression), the *denotatum* (the semiotic object) and the *interpretant* (the sign's meaning) becomes a triangular relationship in iconic representation. This emphasises the Peircean notion of iconicity and rejects the Saussurean view of arbitrariness where the *signifier* (the linguistic sign) and the *signified* (the meaning) do not have any relationship but are distinct of each other. Furthermore, the AdaSL was created in a community where spoken language is dominant, "where being transparent through the use of iconicity is important in making oneself understood" (Brentari 2011:18).

This thesis did not **compare** iconicity in the AdaSL and the ideophones of the Akuapem Twi; it rather presented data to show how each demonstrate its' iconicity. It also presented the levels of iconicity as demonstrated in both and finally concluded with how image-form-meaning is mapped in the iconically motivated signs of the AdaSL and the ideophones of the Akuapem Twi. Siding with Brentari, I conclude that "the effects of iconicity on phonological structure are seen more strongly in sign languages because of the stronger role that visual iconicity can play in these languages compared with auditory iconicity in spoken languages" (Brentari 2011:24). Iconicity in spoken language is an acoustic event and ideophones are *expressive* parts of speech that portray acoustic iconicity.

The desire to communicate and be understood in Adamorobe demands that the two articulatory modalities interact to produce a code that is accessible and understood by both the deaf and hearing. The language that mediates between the deaf and the hearing in Adamorobe is the AdaSL which is used by both the deaf and the hearing signers. According to a hearing signer in Adamorobe;

[49] My addition

*"Adamorobe nsa kasa no yɛ kasa soronko. Yɛde yɛnsa ne yɛ honam na ɛka; ɛtumi kyerɛ y'adwen nyinaa. Ɛnyɛ mumufoɔ nkoaa kasa, na yɛn so ne mumufoɔ no rekasa a, ɔno na yɛka. Ɛnso, sɛ yɛpɛsɛ yɛde biribi sie obi a ɔnte Adamorobe nsa kasa no a, ɔno na yɛka".*

"The Adamorobe Sign Language is a special language and we speak it with our hands and our body; it is able to express all our thoughts. The language is not for the deaf people alone, but we (the hearing) also use it in communication with the deaf. Also, when we (hearing people) want to hide something from someone who does not understand the Adamorobe Sign Language that is what we speak". (Interview with *James Abresua*, a hearing signer of the AdaSL. Source: my fieldwork 2014).

Thus the people of Adamorobe speak with *their hands and their voices*; the sign language uses the hands and other parts of the body and the spoken language is vocal (voiced). Iconicity is manifested differently in both languages as discussed above.

### 6.2 Age, Gender and Iconicity

In the chapter 4, we realised that the signers of the Adamorobe Sign Language that were interviewed for this research work were all deaf adults. The AdaSL data is therefore from only adults' signers (between 30-70 years of age) since the young signers' were excluded for the purpose of this work. It was realised that the women are more prone to use highly iconic substitute for concepts that have no sign in the AdaSL as compared to the men. The men would rather choose to represent the concepts in the GSL if they know the GSL sign for that concept.

According to Agyekum, "in the contemporary Akan society, rural dwellers will employ more ideophones in the Akan usage than their urban counterpart… and the appropriate use of the ideophones depends on the ethnographic context and the type of oral literature genre that is under discussion" (Agyekum 2008:116). I found out that the use of ideophones in the urban centers is peculiar with the media especially in the language of advertisement and comedy. From the recorded data, it was realised that the men used more iconic ideophones as compared to the women. From the (selected) 19 recorded voices that were used in this thesis, 17 were from men and 2 were voices of women. The recorded data were taken from people who were above the age of 30. Very few interviews were conducted on young speakers of Akan and their tendency to use ideophones was relatively low. Some even avoided to use

ideophones and had to be prompted to name a sound before they did. Thus we can say that the tendency to use iconic ideophonic sounds in Akan is *an adult affair*.

### 6.3 Recommendations for further research

This research has highlighted the iconic features of the Adamorobe Sign Language and the ideophones of the Akuapem Twi. The investigation found out that the iconic part of human language cannot be underestimated. Further, it revealed some of the motivations behind the use of iconic signs and sounds. The people of the Adamorobe community indeed communicate with *their hands and their voices* and this work represent just a small portion of the linguistic diversity in the Adamorobe Community.

The Adamorobe community is relatively small as compared to other communities in Ghana. However, it has great linguistic influence and the different languages that are used in the community have influenced each other. Thus a study on the language contact phenomenon in the community is worth pursuing.

It is indubitable that in an endangered language like the AdaSL is suffering from influence from the Ghanaian Sign Language. At the time of my research, there were 25 deaf people in Adamorobe and 10 of these were children. Some of these children were studying in a boarding institution for the Deaf in Akuapem Mampong, some kilometers from Adamorobe. The school uses the GSL as its main language of instruction and the influence this has had on the Adamorobe Sign Language is enormous. The children return from school on vacations and use the GSL among each other. During the data collection, it was realised that some adult signers use signs from the GSL. They had to be corrected by other deaf people of their language shift (and also if we accidentally skip an incorporated GSL sign, l did the correction during the transcription of the videos taken). Code mixing between the AdaSL and the GSL is therefore a growing phenomenon among the AdaSL signers. In the same way, Akan speakers code mix a lot with English (as seen in some of the examples given in chapter 5). A proper documentation of the Adamorobe Sign Language is therefore required so that in case there is a complete shift to the Ghanaian Sign Language, future linguists will have information for comparison.

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https://tla.mpi.nl/tools/tla-tools/elan/ (website for ELAN)

# APPENDICES

# APPENDIX 1

## *List of Figures*



## *List of Tables*

## *List of Charts*

# APPENDIX 2- Iconicity in the AdaSL (Database)

1. Size and shape

| **AdaSL signs** | **Iconicity/ Iconic motivation** |
|---|---|
| MONTH | The crescent/ to depict the moon |
| ADAMOROBE | Drumming |
| THURSDAY | Cutlass repairs |
| MAN | The beard |
| WOMAN | The breast |
| SUNDAY | Opened book (Bible) |
| CHURCH | Worship/ closed palms |
| BARREL | Circular/ round shape |
| BENCH | A long stretch object (seat) |
| WINDOW | A rectangular shape |
| SMALL | The relative quantity |

2. Expression of time

| **AdaSL signs** | **Spatial locations** | **Time Expression** | **Meaning** |
|---|---|---|---|
| TODAY | Signer's Position | Present | Now, today, current |
| TOMORROW | In front of the signer | Future | Tomorrow, later, not now |
| YESTERDAY | Behind the signer | Past | Yesterday, sometime ago |
| FINISH | Opened palms | Past | Finished, done, completed |
| MONTH(S) | The crescent | Month(s) | Counting the months |

3. Emotive and Cognitive signs

| **AdaSL Signs** | **Akuapem Twi** | **Place(s) involved in signing** | **Nonmanual markers** |
|---|---|---|---|
| PAIN/HURT | ɔyaw | The shaking of one hand or two | An expression of pain |
| FEEL | atinka | Around the ribs | A twitching movement |
| WORRY | adwendwen | Around the head | A sad face |
| HAPPY | anigyiɛ | The chest area | A jovial look |
| SAD /SORROW | awerɛhow | The front part of the body (upper) | A downcast look |
| ANGRY | abufoɔ | The chest area | A "serious" face |
| THINK | dwene | The side of the forehead | A concentrated face |
| UNDERSTAND | nteaseɛ | The side of the forehead | Jovial facial expression |
| AGREE | gyetumu/adwenkoro | In front of the body | Happy look |
| CONFUSE | adwentanta | The side of the forehead | A look of confusion |
| FORGET | awerɛfi | The side of the forehead | A look of regret |

4. Verbal directionality

| **AdaSL signs** | **Towards signer ←** | **Towards other(s)→** | **Motivation** |
|---|---|---|---|
| EAT | yes | no | One way |
| HAVE | yes | no | One way |
| TELL | yes | yes | Bidirectional |

| **AdaSL signs** | **Towards signer ←** | **Towards other(s)→** | **Motivation** |
|---|---|---|---|
| GIVE | yes | yes | Bidirectional |
| PAY | yes | yes | Bidirectional |
| CARRY | no | yes | One way |
| BRING | yes | no | One way |

| **AdaSL Verbs** | **Directionality** | **Motivation** |
|---|---|---|
| CLIMB | Upward movement | Climb is “up” |
| WALK | Forward movement | Walk is “forward” |
| FALL | Downward movement | Fall is “down” |

# APPENDIX 3- The Akuapem Twi ideophones (Database)

| Ideophones | Meaning | Category |
|---|---|---|
| *gagaga* | sound from intense headache | Sound ideophone |
| *kãi* | sound of the clock when it hit the hour | |
| *pãn* | sound of an ink stamp on a paper | |
| *boodwaboodwa* | sound of a confused crowd | |
| *ngaangaangaa* | cry of a baby | |
| *kãikãikãi* | sound of a bell ringing | |
| *kɔkɔɔkɔ* | knocking on a door | |
| *kokoko* | sound for intermittent drops of liquid | |
| *bumbum* | sound for falling in succession | |
| *birim* | the sound one makes when he falls down plonk | |
| *pitapita* | sound of pounding fufu | |
| *mmɛɛmmɛɛ/muumuu* | bleating | |
| *kwaakwaa* | clucking | |
| *Wow-wow* | barking | |
| *nahanaha* | smoothness | Touch ideophone |
| *sokooo* | smooth | |
| *gingaw* | very sharp | |
| *gyiriwgyiriw* | rough | |
| *fekɔfekɔ* | smooth | |
| *gyirumgyirum* | not very smooth | |
| *fɔɔm* | cool surface | |
| *nyãn* | fetid | Smell ideophone |
| *kãnkãn* | foul smell | |
| *hũam* | pleasant smell | |
| *yerɛwyerɛw* | lightening | Vision ideophone |
| *gãnzei* | high intensity of light | |
| *hyerɛnhyerɛn* | glow | |
| *korangyee* | clear | |
| *kumɔɔ* | poor visibility | |
| *kusuu* | cloudy | |
| *kabii* | darkness | |
| *hãn* | brightness | |
| *fãi* | clarity of vision | |
| *nyinamnyinam* | sparkling | |
| *hwimhwim* | swift/brisk | Movement ideophone |
| *srɔsrɔ* | swift | |
| *santan** | speed that moves with a bang | |
| *gunaguna** | movement of water in the throat | |
| *pa* | fast pace | |
| *dɛsɛdɛsɛ* | sluggish movement | |
| *kɛkyɛ* | skillful movement | |
| *bɔkɔɔ/berɛw/nyaa* | slowly | |
| *twiritwiri** | movement with dragging of feet | |
| *pampam* | to move briskly/energetically | |
| *yɔɔ* | movement without impediment | |
| *hamham* | fast movement of food into the mouth | |
| *bobobo** | to gulp water forcefully | |
| *dwondwondwon** | to move noisily | |
| *waka* | to rise quickly | |

| **Ideophones** | **Meaning** | **Category** |
|---|---|---|
| *wurudu* | to force something into a hole | |
| *manyamanya* | huge crowd | Size and shape |
| *satoo* | clumsy chunk | |
| *peewaa* | excessive amount | |
| *kakraa* | huge/big | |
| *fĩaa/tĩaa/hwĩaa* | slim/thin/lanky | |
| *bɛbrɛɛ* | many/much | |
| *krukrudu* | massive/huge/large | |
| *tɛtɛɛtɛr* | plain/flat | |
| *yantamm* | vast | |
| *fĩaagaa* | very slim | |

# APPENDIX 4- Data Elicitation Strategies

1. **Descriptions of stimulus film used in the data elicitation (Canary Rows)**

http://en.wikipedia.org/wiki/Canary_Row (edited from the original plot)
The cat employs binoculars to focus on the window opposite him, containing the bird's cage. The bird does the same. The cat jumps for joy and runs to the building the bird is in but fails to notice the sign banning cats and dogs from the building. This results in a confrontation with the guard just inside the door, who kicks the cat out.

Next, the cat climbs up the drainpipe of the Apartment Building while the bird sings a song. The bird realise that the cat is watching him. He calls for help and jumps out of his cage and the cat chases him through the room. However, the bird's owner is ready for him. She throws the cat out the window. The cat paces around the door, then gets an idea: to climb up in the drainpipe. The bird drops a bowling ball into the drainpipe. The heavy ball collides with the cat and he swallows it.

## 2. Some elicitation conversations for the Adamorobe Sign Language Data

a. Personal introduction of informants
b. Everyday items/household items
c. Day names and meaning
d. The work of the informants (farming)
e. Situation of the Deaf in Adamorobe
f. What they (informants) do each day
g. Religion in Adamorobe
h. The death of the hearing interpreter
i. Individual signs (verbs, emotive and cognitive signs, simple conversation in the AdaSL)

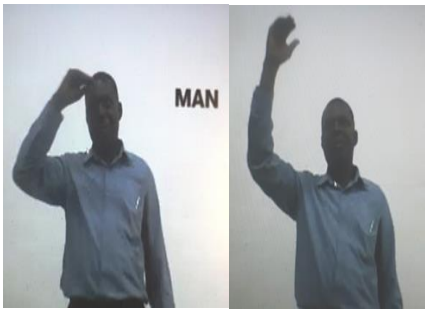
## 3. Some elicitation conversation for the Akuapem Twi data

1. Naming of sounds
2. Sound evoking words
3. Differences between the dialects of Akan
4. What sound refers to *this* action

## APPENDIX 5- Cross-linguistic examples of Iconicity

1. BIRD is realised in the ASL and the GSL with the focus of iconicity on the beak. Here the iconicity is determined by the pointed beak of the BIRD whereas the AdaSL looks at the wings and the ability to fly. The sign for BIRD is represented with more salient features in the AdaSL than the ASL and the GSL.
2. The signs for MAN and WOMAN are least iconic in the ASL and the GSL. Their salient features are not visibly iconic.
3. The sign for AGREE in the ASL and the GSL is a compound of THINK^SAME. The locations are the forehead and in front of the body. The cognitive sign THINK is realised on the forehead and the SAME is signed with bringing the two index fingers together. The sign for AGREE in the ASL and the GSL is highly iconic than the AdaSL sign.
4. The sign for <WON'T GIVE> in the AdaSL is similar to the sign for NOT in the GSL. They are differentiated by the nonmanual markers added.

BIRD[50] (ASL/GSL)



MAN (GSL)

WOMAN (GSL)

5. The sound ideophones have similar realisations in different languages. They are highly imagic in their iconic representation. These sounds are usually the exact replica of the sounds that are derived from the actions and they occupy the HIGH level of the iconic scale. For instance;

*gbim*- collision (Akan)
*gbum*- explosion (Akan)
*gbum*- explosion (Siwu, cf. Dingemanse 2011:131)
*boom*- explosion (English)
*gbrr*- thunder (Logba, cf. Dorvlo 2008:240)

6. The smell ideophones are marked by nasalised vowels to indicate the perceptual sense of smell. Examples in Akan and other languages include;

*nyãn*- fetid (Akan)
*nyanyarĩĩ*- unpleasant (Siwu, cf. Dingemanse 2011:203)
*kãñkãñ*- bad odour/foul-smell (Akan)
*hũam*- good aroma/pleasant smell (Akan)
*kɔ̃rɔ̃kɔ̃rɔ̃*- pleasant scent (Siwu, Dingemanse 2011:203)

[50] http://lifeprint.com/asl101/images-signs/bird.gif