A Descriptive Grammar of Morphosyntactic Constructions in Ugandan Sign Language (UgSL)

by

Sam Lutalo-Kiingi

A thesis submitted in partial fulfilment for the requirements of the degree of Doctor of Philosophy at the University of Central Lancashire

February 2014

Student Declaration

I declare that while registered as a candidate for the research degree, I have not been a registered candidate or enrolled student for another award of the University or other academic or professional institution.

I declare that no material contained in the thesis has been used in any other submission for an academic award and is solely my own work.

Signature of Candidate_____

Type of Award   Doctor of Philosophy

School   School of Language Literature and International Studies (SOLLIS)

ABSTRACT

The Ugandan Deaf Community, consisting of approximately 25,000 sign language users, has seen significant developments in its recent history. Government recognition of sign language, establishment of schools for the deaf, and the beginnings of research into Ugandan Sign Language (UgSL) have been important milestones. While Deaf Ugandans are entering university level education for the first time, a number of challenges to the community remain.

The aim of this thesis is to investigate the linguistic structures of UgSL in order to produce a description of the language's morphosyntax. There is a close relationship between word (or sign) properties and syntactic expressions, so UgSL is described here in terms of its morphosyntactic constructions, rather than a differentiation between morphological and syntactic features (cf. Croft 2001; Wilkinson 2013:260). While a substantial number of such descriptions exist for languages outside of Africa, this thesis is the first attempt at describing the morphosyntax of an African sign language. Many African sign languages are severely under-documented, and some are endangered. This study uses an inductive approach and a corpus-based methodology, examining how UgSL signers construct utterances of morphosyntactic complexity. The thesis is in three parts: part I is an introduction and overview of UgSL and also provides the theoretical and methodological background; part II provides a preliminary survey of UgSL grammar to provide a sider context for subsequent chapters; and part III is a detailed survey of five morphosyntactic domains of UgSL. The author is a native Deaf user of UgSL and a member of the Ugandan Deaf Community, as well as being fluent in several other sign languages and participating in international communities of Deaf people.

To my mother,

Harriet Nakazaana Kiingi

TABLE OF CONTENTS

ACKNOWLEDGEMENTS

Throughout the course of this study, the key to enhanced happiness and contentment in life has become the completion of the project. It has been a journey of immense learning and its course has taken me in many directions that I had not anticipated travelling. Studying at this level has presented many challenges and has afforded an advanced level of learning that I have become wholly enthused in. It has been an enjoyable journey and I have most certainly not travelled alone. I am now in a position to acknowledge all the support and assistance that I have had along the way.

First thanks go to all the people who provided corpus materials, especially colleagues at Kyambogo University for allowing access to the data, and to those who made the collection of the new data possible, including those people involved in the research process and those who assisted with the practicalities of the collection. Although I grew up a native Ugandan Sign Language user, engagement with the data instigated in me a yearning to learn more about the language, its grammar, and its use in the community. Without the people in Uganda, and in the UK, who gave so much of their time and support, this project would not have been possible. Prior to the data collection process, it is Lars Wallin to whom I must offer utmost thanks as the key person for encouraging discussions of a linguistic nature. These inspiring discussions triggered a passion to learn and understand the workings of a language and this passion has remained through the duration of the research.

The door to higher education was first opened to me by colleagues at the former Centre for Sign Language and Sign Supported Communication - KC (Professionshøjskolen UCC, University College) Ritva Bergmann, Asger Bergmann and Anne Klaus, who were instrumental in encouraging me to take the initial steps into university and offered much on-going support and encouragement. Thanks also go to colleagues at the Danish Deaf Association (DDL), especially Lilly Krapup and Hellen Sjoldan for the same support. Once embarked on an academic career, my main inspiration, and the one person who has always been there, from its inception until its completion, and has offered endless practical and theoretical help, has been Bonnie Busingye. Heartfelt

(my mother's sister), Jajja Kanna (my grandmother), and all the descendants of PK and ENK, who are our *jajjas* and *mzeis,* who have been particularly encouraging and have shown a level of interest and encouragement beyond all expectation. Most of all, I offer special thanks here to my *Kojjya* (uncle) and his wife Florence. As a linguist himself, Kibuuka B. Kiingi has been a massive inspiration and academic role-model through my life so far, and I am indebted to him for the consistent feedback and reviewing of my work.

I have reserved the final place in family and friends' acknowledgements for the most important and prestigious person in my life, my *Maama* (late mother), Harriet Nakazaana Kiingi. I offer thanks to her for being there always and for cultivating in me a belief in myself and in my ability to learn and to grow both personally and academically. From the beginning of my education and through to this point, my mother has been a role-model and has provided a level of care, nurture and respect that I can only begin to offer thanks for.

My acknowledgements now lead to the special thanks and appreciation to Goedele De Clerck, for the continual reading and reviewing of my work and for the practical support.

Finally, without the precious God-given gift of life, this research project would not have been possible at all and for that gift, I am eternally thankful.

ABBREVIATIONS

Abbreviations for sign languages

AdaSL	Adamorobe Sign Language
ASL	American Sign Language
Auslan	Australian Sign Language
BSL	British Sign Language
CSL	Chinese Sign Language
DGS	German Sign Language
DSL	Danish Sign Language
FinSL	Finnish Sign Language
HKSL	Hong Kong Sign Language
HZJ	Croatian Sign Language
IPSL	Indo-Pakistani Sign Language
ISL	Israeli Sign Language
JSL	Japanese Sign Language
KSL	Kenyan Sign Language
LAT	Tanzanian Sign Language
LIS	Italian Sign Language
LIU	Jordanian Sign Language
LSB	Brazilian Sign Language
LSE	Spanish Sign Language
NGT	Dutch Sign Language
NZSL	New Zealand Sign Language
ÖGS	Austrian Sign Language
SKSL	South Korean Sign Language
TSL	Taiwanese Sign Language
TİD	Turkish Sign Language
UgSL	Ugandan Sign Language
VGT	Flemish Sign Language

Glossing/transcription conventions

Possession

POSS$_{1/2/3}$ POSS$_{1\text{-IX}}$ POSS$_{1\text{-B}}$ POSS$_{1\text{-S}}$	Possessive pronoun, spatially directed (flat hand, oriented vertically) Possessive pronoun (index hand) Possessive pronoun, (bent hand, oriented vertically) Possessive pronoun, (fist hand, oriented vertically)
POSS$_{1/2/3\text{-EMP}}$	Emphatic possessive
POSS$_1$/$_{2/3\text{-PU}}$	Possessive (have) with palm-up
EXIST$_{+x/y/z}$	Existential
POSS$_{2/3}$-EXIST	Possessive and existential

Negation

NEG	Negative morpheme
SIGN^NEG	Negative clitic
SIGN-NEG	Negative affix
BADO	Negative completive / aspectual (not yet) (Swahili)
TEWAALI	Negative imperative modal (don't, avoid, stop, etc.) (Luganda)
OKUGAANA	Negative modal (don't, deny) (Luganda)
TONO1/2	Quantifier (few, small, little) (Luganda)
PA	Negative particle and possessive

Deixis/pointing

PRO$_{1/2/3}$	An indexical sign or personal pronoun, spatially directed
PRO$_{1\text{-B}}$	A bent B-handshape with the fingertips touching the signer's chest, indicating first person reference
PRO$_{2\text{-}3\text{-PL}}$	An indexical sign moving from the second to the third person location, or between the second and third person locations

PRO$_{2-3-PU-PL}$	A flat or palm-up sign with the fingertips pointing toward the second and then the third person, or sweeping across the signing space to indicate multiple second and/or third persons. This sign has a possessive meaning, i.e. 'you/they have'.
PRO$_{1/2/3-PEJ}$	An indexical sign with the finger flicked out, to indicate first, second or third person, with a pejorative emphatic meaning
PRO$_{1/2/3-NEUT}$	A neutral emphatic pronominal sign comprised of a fist with the thumb pointing upward; the hand is moved and tilted slightly toward the first, second and/or third person referent
PRO$_{2/3-HON}$	A flat or palm-up sign with the fingertips pointing toward the second or third person. This sign indicates honorific reference.
PRO$_{1/2/3-RESP}$	A flat-handshape sign with a vertical hand orientation and a downward movement, indicating emphatic responsibility. For first person reference, the handshape is bent and the fingertips move down the torso.
PRO$_{1/2/3-REF}$	An indexical sign that is reduplicated (with a 'jabbing' motion). This is a pronominal sign emphasising specificity.
DEM-EXIST	Flat hand (palm-up) demonstrative in the location
DEM-$_{IX}$	An index sign of the location

Morphology

SIGN1, SIGN2	Variants of a given sign, or two different signs with the same meaning and gloss
SIGN-SIGN	The meaning of a single sign is described using a gloss that comprises a number of English words, for example KNOW-WELL
(SIGN)	Optional (for example, pronoun drop or borrowed/loan signs from other sign languages)
SIGN+SIGN	Indicates a sequential compound of two signs e.g. TEN+FIVE1
SIGN#SIGN	Simultaneous compounding (with numeral incorporation)
SIGN/SIGN	A single sign with two meanings
SIGN+++ or	Reduplication of a sign

SIGN-REDUP	
₁SIGN₂	Spatial verb agreement with beginning / end locations
DH:SIGN----	Extra duration (hold) of a sign
2h:	both hands sign
-PL	plural
-DISTR	distributive
-CONTI	continuous
-RECIP	reciprocal
-RESP	emphatic responsibility pronouns
-HON	honorific pronouns
-NEUT	neutral emphatic pronouns
-PEJ	pejorative emphatic pronouns
-EXCL	exclusive emphatic pronouns
-DUAL	dual
-INTEN	Intensive aspectual
-FUT	Future reference
-PAST	Past reference
-TL	Timeline
-COLL	Collective plural with arc movement

Interrogatives

WH	General question particle
WH-SUFFIX	Question suffix
WH-IX-TWIST	An indexical WH-sign with twisting of the wrist
WH-IX-SUPINE	An indexical WH-sign which starts with the palm down, twists round, and ends with the palm up
Q-PARTICLE	question particle

Locations

SIGN$_{+x/y/z}$	the locations front-left, front-centre and front-right, respectively, from the signer's perspective
SIGN$_{+d/u}$	the locations front-down and front-up, from the signer's perspective
SIGN$_{+bck}$	(towards) the location behind the signer, from the signer's perspective (i.e. over the shoulder)

Classifiers

CL-PRONE/	Classifier sign, pronated orientation
CL-SUPINE/	Classifier sign, supinated orientation
CL-NEU	Classifier sign, neutral palm-sideways orientation

Fingerspelling conventions

FS:SIGN	The sign is represented by its English spelling using the manual fingerspelling alphabet (every letter is spelt)
SN:NAME	A person's sign name (for example, SN:SAM)
FS:J-JANUARY	An initialised sign
FS:JY-JULY	A lexicalised fingerspelling, showing the sign's prominent letters

Non-manual features

Indicated on the upper line as _____nmf, covering the sign(s) that coincide

_hs	headshake
_hn	head nod
_ht	head tilt
_tilt-bck	backward head tilt
_tp	tongue protruding
_br	brow raise
_t	topic marker, consisting of raised eyebrows and chin tuck
_sq	eye squint or furrow
<gestural>	mouth gesture, for example <puff> is puffed cheeks
<pattern>	mouthing, for example <ma>
NMF	non-manual features
sq-htb	Eye squint with head tilt backward
sq-n	Eye squint with nod
rh-q	Rhetorical question

Abbreviations for cross-references to data clips

(uga_name.eaf --:--:--)

PART I INTRODUCTION AND OVERVIEW

1   INTRODUCTION

1.1   Overview of the study

1.1.1   Scope and motivation

This research aims to provide a descriptive analysis of morphosyntactic constructions in Ugandan Sign Language (UgSL). The thesis explores the nature of UgSL structure, providing insight into the grammatical workings of the language via descriptions of morphosyntactic features. As there is no comprehensive grammar of UgSL, this study attempts to provide a survey grammar of essential morphological and syntactic structures. Other elements of linguistic exploration, such as phonology and discourse features, will not be dealt with due to the limit of the thesis scope; attention is also paid to the interface between morphology and syntax where appropriate.

Ugandan Sign Language, like other sign languages, makes use of several simultaneous linguistic channels including the use of spatial grammar, a system of locating and moving manual signs in the signing space around the body, which can occur in combination with specific non-manual features (facial expressions, upper body shifts, etc.). UgSL is a language that often employs the simultaneous articulation of grammatical processes in its morphology and syntax.

According to Dixon (2010: 93), 'A feature can be called 'morphosyntactic' if it both occurs in a morphological paradigm and marks syntactic function'. Alternatively, the term 'morphosyntactic' is also a cover term for both morphology and syntax and their interface. Thus Croft (2001, in Wilkinson 2013:260) notes that:

> Since there is a close relationship between properties in a word and its syntactic expression, it is challenging to categorically assign specific aspects by either morphological or syntactic properties. Instead of differentiating between morphological and syntactic properties, they are better described as morphosyntactic properties.

Where spoken languages make use of the auditory/aural channels, that is, the articulation of the language occurs through the mouth (and its accompanying articulators) and the reception of the language occurs primarily via the ears, sign languages employ the hands, face and upper body for the purposes of articulation and the eyes for the primary receptor (i.e. the manual/visual modality). This modality often allows elements of morphological and syntactic processes to be employed simultaneously, and research in this thesis encompasses morphosyntax in the wider sense, including morphology, syntax, and their interconnectedness.

This study is motivated by the inaugural research into UgSL that was carried out only as recently as 1997 and by the publication of UgSL's first dictionary, in 2006. The dictionary project (detailed in Section 3.5.2) resulted in a small corpus of UgSL, illustrating its richness and complexity on a phonological level. This was a timely project, as Uganda is an African country that is fortunate to have benefited to some extent from technological advances, such as recording equipment and annotation software that made the collection and analysis of the corpus possible. This lexicography paved the way for further research to examine the grammatical processes underpinning the language structure and hence this research project came about. The intention to expand the corpus is achieved here and this thesis provides descriptions of the morphosyntactic features in order to contribute to the limited understanding and documentation of the language that exists to date. Since the initial collection of the corpus for the dictionary project, there have been comparable efforts to compile corpora in other countries (see Section 3.2.1).

The study aims to provide an account of the grammatical features not only to complement existing studies but also to contribute to the documentation of the language. Current research is discovering that some of the world's sign languages are endangered and even in a moribund state (see, for instance, de Vos & Zeshan 2012); this thesis serves to raise the profile of a language that is now used proudly by its owners, i.e. the Ugandan Deaf community; a language that provides a native and identity-constituting indigenous language for the Deaf people of Uganda. This is also timely given the recognition of Ugandan Sign Language by the Ugandan Government and inclusion in the Constitution in 1995.

1.1.2 Structure of the thesis

Part I of the thesis begins with this introductory Chapter, explaining the morphosyntactic scope and the presentation of the thesis. Chapter 2 presents information on UgSL and the Ugandan Deaf community, the development of UgSL, and its use in education, in a background chapter. This provides an overview of the sociolinguistic situation in which the language functions and an understanding of the implications for the language and education rights of Deaf people. The Chapter then presents a brief review of linguistic research on Ugandan Sign Language and related literature in order to locate the research in a wider research context. The third Chapter presents the methodological background and discusses how different methods have been combined into an innovative approach that can provide answers to the research question. Most examples on which the thesis is based are taken from data collected through corpus methodology, and the creation of this corpus is explained in Section 3.2.

Part II of the thesis explores essential grammatical features of UgSL in the form of a sketch grammar. Based on the literature of spoken and signed languages which refers to the open word classes of adjectives, nouns, and verbs, Section 4.2 discusses 'sign classes' and their applicability to UgSL. Sign formation processes and inflectional categories are discussed in Sections 4.3 and 4.4, followed by structures specific to the signed modality, that is spatial grammar and non-manual features. A summary of sign order patterns in Section 4.7 concludes the grammatical sketch.

Part III of the thesis contains Chapters 5 to 9, which provide a detailed analysis of five morphosyntactic domains. Chapter 5 focuses on *number and quantification*, documenting the use of number as a grammatical feature and the articulation of the numeral and quantifier systems in UgSL. The next Chapter concentrates on *pronouns* in UgSL and provides a description of several pronoun series found in UgSL, including honorific pronouns, emphatic pronouns, possessive pronouns and reciprocal pronouns. Chapter 7 deals with a further morphosyntactic domain: *interrogative constructions,* including the semantics, the morphology and the syntactic patterns of interrogative signs in UgSL. Various types of *negation* are described in Chapter 8, including sub-topics such as grammatical and psychological negativity, clause negation,

negative modals, and sentential positioning of negative structures. Finally, the morphosyntactic domain of *possession and existence* is discussed in the following Chapter, looking at both attributive and predicative possession. The concluding Chapter of Part III, Chapter 10, draws together the findings from all three parts of the thesis, highlighting some of the areas where UgSL is cross-linguistically unusual. Ideas for future research are included, and the potential benefits of this research for the Ugandan Deaf community – which are considerable – are discussed.

The thesis provides an appendix containing video examples. Within the thesis text, written English is used to expound upon any relevant issues raised by a particular example, such as why a certain form is used rather than another within the given structure. Original UgSL data has been used wherever possible in the example video clips. The speed of the data has often been purposefully slowed down so that the features under discussion may be observed more easily. Glosses are also added on screen so that the viewer can understand the data clips. In some cases it was not possible to create a clear clip from the data, so these have been reproduced by the researcher. Additionally, in domains where few target structures occur in the data, examples have been created using introspection (see Section 3.3). It is worthwhile to mention some weaknesses in the use of glosses that may bear a rather tenuous link with the sign they are supposed to represent. Therefore, glosses should be viewed with caution and it should be remembered that images (especially moving images) of signs are much more appropriate, lucid, informative and comprehensive. For example, glosses such as 'brow raise' do not give a sense of the precise, nuanced facial expressions of sign languages. The use of glosses is discussed in detail in Chapter 3.

2   BACKGROUND TO THE STUDY

2.1 The Deaf Community in Uganda[1]

Uganda is located in East Africa (see Figure 1.1) and has a population of 31 million, according to the current census update provided by the Ugandan Bureau of Statistics (UBOS 2008). The capital city of Uganda is Kampala, which lies to the south. Uganda has a complex linguistic landscape, with 63 main spoken languages (Tembe and Norton 2008). The first official language of Uganda is English, and the second is Swahili, although recently the Luganda language has become known throughout Uganda. Luganda and Swahili are both Bantu languages, and there are many overlaps in, for example, their phonology and lexicon. Most Ugandans have a local language as their first language. The second, third, and sometimes fourth languages are often Luganda, Swahili and/or English.

Figure 2.1: A map showing the location of Uganda (from *mapsof.net*) [accessed on 15th January 2011]

Very little has been written about deafness or Deaf[2] individuals in the history of Uganda (Kiyaga & Moores 2003; Miles 2005; Lutalo-Kiingi 2008).

---

[1] In this Section I rely on the limited number of published sources that are available about the Ugandan Deaf community and Ugandan Sign Language. In addition, I rely on my personal experiences as a member of the Ugandan Deaf community. In the text, wherever I have not indicated a source for the information provided, I have relied on my own knowledge of the Ugandan Deaf Community.

However, it is interesting to note that one particular king who ruled the throne between 1475 -1501 was known by the name 'Kiggala'.[3] This sparks interest, as the Luganda word *kiggala* means 'deaf' but it is not known whether this name was given because he was born deaf. It is suggested that there are approximately 25,000 culturally and linguistically Deaf people living in Uganda at present (Ministry of Gender, Labour and Social Development, February 2006; Lutalo-Kiingi 2008). Many members of Ugandan society continue to hold negative perceptions of deaf people, and discriminative titles are still used by some to refer to the deaf (Wallin et al. 2006: 6). In recent decades, however, the Deaf community in Uganda has become increasingly effective in advocacy activities to campaign for the rights of Deaf people.

The most powerful Deaf–led organisation in the country is the Uganda National Association of the Deaf (UNAD), which was founded as a charity in 1973. Some of the main aims of UNAD are to provide an advocacy service, to lobby the Government to eradicate poverty, and to acknowledge the right of Deaf people to have their own sign language. All members of the association are Deaf, and serve as role models for other Deaf people who are not yet members of UNAD (Haualand & Allen 2009). Historically there were many district Deaf associations, but it became increasingly difficult to manage these, and so UNAD re-structured itself, establishing eleven regional Deaf associations that serve the wider districts and local Deaf community. Greater international co-operation between national Deaf associations in Africa began in 1987, when the first regional conference for Eastern and South African states was held in Ethiopia, under the auspices of the World Federation of the Deaf (WFD). From then on, regional conferences took place every two years, and enabled focus upon the experiences and situations of Deaf people from across Eastern and Southern Africa. Representatives from each of the member states

---

[2] Following an established convention, "Deaf" is used here to denote members of a cultural and linguistic minority, with sign language use as one of its most important hallmarks, while "deaf" refers to a person's audiological status, without any reference to sign language or Deaf culture.

[3] I am grateful to Stephen Ssentongo for this information.

attend the conference to discuss projects that aim to improve the situation for Deaf people. Each conference adopts a theme, such as 'Language' and 'Education', and the fourth such conference – held in Uganda in 1994 – was 'The Provision of Sign Language Interpreters'.

Most Deaf people who are members of the signing community – those who comprise a robust cultural and linguistic minority – are living in urban areas,[4] perhaps because of employment opportunities, and a desire to socialise with other Deaf people. UNAD has its headquarters in Kampala, and Deaf people tend to meet there, as well as in other urban areas where regional associations have been set up. UNAD highlights the needs and rights of the Deaf community on a national and local level, including the needs and rights of the parents of deaf children. In addition to the many activities and programmes run by UNAD, programmes involving Deaf people are also run by the Government, the private sector, national NGOs, forums, and Deaf associations in Kampala and other districts.

2.2 The history of Ugandan Sign Language (UgSL) from external influence to government recognition

Though the development of some sign languages can be said to have coincided with the establishment of deaf schools, it is thus far unclear whether this is the case for Uganda. Members of the Deaf community have provided the researcher with informal observations on the history of UgSL, but further empirical evidence is needed before assertions about its origins can be made. Until 1961 there were no deaf schools in Uganda, and before this it is likely that 'home signs' were used by deaf children with hearing parents. Home signs are gestural systems used by deaf children or adults who have not had access to a conventional language model, such as Ugandan Sign Language. These gestural systems would have constituted the primary communication method for

---

[4] This is in comparison with rural areas where most of the deaf people do not consider themselves as a cultural and linguistic minority (due to lack of sign language usage and education) (Pullen 2001:22).

many isolated Deaf children in Uganda and differ from the non-linguistic use of gestures that accompany speech, as Goldin-Meadow's discussion of gestural systems proposes:

> Do the gestures hearing speakers produce with speech show left-hemisphere dominance? We do not know the answer yet, but it is likely to be no, as these gestures do not exhibit the hierarchically segmented structures found in speech and sign. Do the language-like gestures deaf children of hearing parents use instead of speech show left-hemisphere dominance? Again we do not know, but the answer is likely to be yes, as these homemade gesture systems, if truly linguistic, ought to be processed like natural language.
>
> (Goldin-Meadow 2003: 36)

Home sign systems, then, indicate that Deaf children were capable of communication long before the development of the conventionalised sign language; this method of communication is presumably how Kiggala (see Section 2.1 above) would have become educated and successful.

The eventual development of UgSL was later influenced by British Sign Language (BSL), due to teachers coming from Britain. For example, UgSL uses the same signs as BSL for months and weekdays. Even though the one-handed manual alphabet is now used in UgSL, signs from the two-handed manual BSL alphabet are the basis of initial components of some signs, such as BOY and GIRL, are used in the signs for some Ugandan towns, for example ENTEBBE and KAMPALA. UgSL flourished in deaf schools throughout the 1960s, but between 1970 and 1988, education became very limited due to civil unrest. However, when schools reopened at the end of the 1980s, UgSL once again thrived. Teachers coming from Britain had more positive attitudes toward the language due to the emerging field of sign linguistics and the founding of courses for teachers of the deaf at the Uganda National Institute of Special

Education (UNISE)[5] in the 1980s. The use of American Sign Language (ASL) also increased in Kampala in the 1980s, chiefly because of a deafened Ugandan man who had learnt ASL in Nigeria, and then used this in a school and a Christian mission in Kampala (Krarup 1998; Lule & Wallin 2010:120). Borrowings from ASL include signs such as IMPORTANT and WHAT, along with the one-handed manual alphabet.

There is a notable degree of similarity between the lexicon of Kenyan Sign Language and the UgSL lexicon, as many young Deaf Ugandans went (and still go) to secondary schools in Kenya for vocational training, due to the greater availability and variety of courses.[6] Danish Sign Language (DSL) has also had some influence in the 1990s, as four Deaf Ugandans went to study in Denmark. Borrowings from DSL include ATTITUDE and EVALUATION. By 1994, UNAD members started to become aware of the right to use their own sign language, and were concerned about influences from other sign languages. They started taking steps to protect their native sign language, for example by only giving sign language training in UgSL, and by producing a short manual of UgSL signs.

UgSL is not based on, nor is it derived from, any of the numerous local spoken languages and foreign sign languages used in Uganda (Wallin et al. 2006:11). UgSL is recognised as an official language in the 1995 National Constitution of Uganda:

> The Constitution provides for fair representation of marginalized groups on all constitutional and other bodies, recognition of the rights of PWDs [persons with disabilities] to respect and human dignity, and promotes the development of a sign language for the Deaf…

---

[5] UNISE became part of Kyambogo University in 2001.

[6] No lexical comparisons have been produced to date, but I estimate that around 20% of the lexicon is the same.

(i). The Parliamentary Elections Statute of 1996 provides for 5 representatives of PWDs in Parliament, at least one of whom should be a woman and the use of sign language where applicable;

(Cultural Objective XXIV(c), Article 35)

In 1998, UNAD celebrated its twenty-fifth anniversary, attended by the wife of the Ugandan President (Krarup 1998: 11). In 2006, UNAD successfully joined in the WFD's "International Deaf Awareness Week". Nkwangu writes that 'this Week gives each country an opportunity to evaluate its various activities and strategies to ensure that Deaf people's needs and concerns are being addressed and their human rights promoted and protected' (Nkwangu 2006: 3).

Deaf people have had limited employment opportunities with companies, deaf schools, universities, and deaf businesses. Wallin et al. (2006: 3) note that: 'Deaf communities in Uganda exist mostly in urban areas where Deaf people migrate in search of employment and interaction with other Deaf people'. Deaf people tend to receive lower wages because of the lower level of education that they have received, while many of those who live in rural areas have received no formal education at all. Indeed, 90% of the Ugandan population lives in rural areas (Tembe and Norton 2008:35), and the majority of deaf people live in villages, working for their family.

2.3   UgSL and access to Deaf Education

The last 50 years have seen a number of significant developments in both deaf education and Deaf organisations in Uganda. From the founding of the first deaf school in 1961, primary education policy for deaf children in Uganda favoured the oral method, which was common worldwide at the time. This method involves using lipreading, and trying to develop speech and spoken language in deaf children, and usually precludes the use of sign language in the classroom. By 1988, the philosophy of Total Communication had become more influential, which meant that signs were being used in the classroom for the first time, albeit with the grammar of spoken language, not sign language (this is known as Signed English, or Sign Supported English).

There are currently several influential ideas in Uganda concerning how deaf children should be taught at primary and secondary level, including 'special needs education' and 'inclusive education', while the Deaf community favours bilingual, or multilingual education.[7] Bilingualism is an approach to the education of deaf children that uses both the sign language of the Deaf community and the spoken and written language(s) of the hearing community (Dufour 1997; Grosjean 1997). At the moment, the educational policy of the Ugandan government is not clear as to which of these ideas are favoured. Currently there are 11 deaf primary schools in Uganda, and three secondary schools that accept deaf pupils – two of these are schools for the deaf (Wakiso, in Kampala; and Mbale district), and the other is mainstream (in Ngora district). There are around 30 units for deaf children in mainstream schools, but more than 40 of the 100 districts in Uganda have yet to establish one of these units and only 1% of the deaf children enrolled in primary schools reach the standard expected of 10-11 year olds (Murangira 2009:2). Where a deaf child is educated in a school that adheres to the 'Local Language Policy', which was introduced in 2007, it is permitted to use the 'local mother tongue', and this includes Ugandan Sign Language. In this case, Deaf adults are employed in teaching and support roles to serve as language models for deaf children from hearing families (Wallin et al. 2006:7).

Unfortunately, government funding for sign language training has been cut because sign language is considered an 'arts' subject, and the government now prioritises funding for science subjects over funding for arts subjects. For the same reason, deaf students at Kyambogo University now have fewer study options because they have traditionally studied arts subjects, and now funding for these is much reduced. Private education for deaf pupils is also limited; there is no clear policy to ensure that private schools offer quality education, and many of these schools over-charge parents and guardians. However, the number of professional UgSL interpreters is growing, and since 2001, a small

---

[7] Given the number of local languages in Uganda, it is more accurate to speak of 'multilingual' rather than 'bilingual' education.

number of Deaf people have been given funding to pay for interpreters so that they can access further and higher education. UNAD advocates for the rights of all deaf people to access education at primary, secondary and tertiary level in Uganda. UNAD supports UgSL training programmes at Kyambogo University, and professional training for UgSL interpreters. Those who wish to become professional UgSL interpreters can now study for a two-year diploma, and there is also a four-month certificate for those who are interested in learning UgSL for other reasons.

Uganda's government and universities are now aware of the importance of sign language, and Kyambogo University now has three Deaf members of teaching staff. However, the Ugandan government has yet to include sign language in its education policy. It is vital that the government takes further steps in order to make the UgSL recognition enshrined in the Constitution into a reality for Deaf Ugandans. In addition, UNAD still has much to do in terms of education, employment advocacy, and the empowerment of deaf women. The financial and project management skills of its leaders have yet to be fully developed.

2.4   Linguistic research on sign languages and on UgSL

Sign languages and Deaf/sign communities have emerged whenever deaf people have come together (Monaghan et al. 2003). Textual evidence exists showing that gestural communication and formal sign language in Africa dates back to the sixteenth century (Miles 2004, 2005). The development of urban Deaf communities in Africa, as in other parts of the world, has been tied to the establishment of deaf schools, which has taken place in the 'development' period after World War II. Schools have often adopted the philosophy and sign language of the founding and supporting country, which explains the contact of African sign languages and dominant Western sign languages, such as ASL, BSL, *Langue des Signes Française* (LSF), etc, and the endangerment of indigenous sign languages (for a discussion and overview of research, please see Lutalo-Kiingi & De Clerck (in press a,b) and De Clerck 2010) . Since the 1960s, there has been an increasing amount of research into sign languages, especially in the US and Western Europe. Research into African sign languages, however, did not begin in earnest until the 1990s, when

lexicographical projects were undertaken for sign languages in Kenya (Akach 1991) and South Africa (Penn 1992-4). In addition to research on 'national' sign languages, a number of village, or rural sign languages have been discovered in Africa, including Hausa Sign Language in Nigeria (Schmaling 2001), Adamorobe Sign Language in Ghana (Nyst 2007) and Dogon Sign Language in Mali (Nyst 2012).

Documentation of sign languages, via research, is crucial and it is argued here that Deaf communities of sign language users need this research, along with two further aspects - training for interpreters and teachers, and official recognition of sign languages - in order to develop. Contact with other sign languages, such as American Sign Language and British Sign Language, means that indigenous sign languages are often endangered, or considered less prestigious. Documentation is essential in order to improve the vitality of indigenous sign languages. Through research and the dissemination of research findings, Deaf and hearing people come to realise that, like spoken languages, signed languages are fully-fledged languages, with intricate phonological, morphological and syntactic structures. Awareness of sign languages means that they can be used effectively for communication between Deaf and hearing people. It is not necessary to adopt the grammar of spoken languages, or to borrow materials (or even whole sign languages) from abroad.

Several African governments have attempted to try and 'standardise' sign languages by creating dictionaries of artificial languages. The rationale for this is described by a professor from Zimbabwe:

> The existence of several varieties can impede effective communication between deaf persons who use different varieties. It also poses a pedagogical challenge in that any education system may not know which of the dialects to teach and to use as a medium of instruction at school. This calls for the production of a unified standard variety which can be used in the whole country for both formal and informal purposes.
>
> (Miti 2011: v)

Deaf people also sometimes think that one country should have one sign for one word, but there are convincing arguments against such a policy. First, there is no evidence to suggest that the existence of several varieties causes any

difficulties for Deaf people. Second, it is surely not right to tell someone that the lexicon that they use is not permissible, and should be dropped in favour of 'new standard' signs. Third, the diversity of sign languages is important, and linked to culture. And finally, other languages, such as English, have many synonyms – this is not problematic, and moves to 'get rid of' superfluous synonyms would not be treated favourably by most English users.

In summary, linguistic and anthropological research with and on African Deaf/sign communities has only just begun. More research is needed to document and support the revitalisation of indigenous sign languages and communities, which are linguistically and culturally rich, but vulnerable to influence through language contact and transnational exposure. Both Deaf and hearing people have a part to play in documenting sign languages and Deaf communities. Spoken language field linguists need to be more aware of sign languages and Deaf communities, while Deaf people must be involved in the documentation of their languages and culture at every step.

To date, there has been very little research into Ugandan Sign Language, and UgSL has typically been ignored by surveys of African languages (Greenberg 1963; Childs 2003). Happily, this is beginning to change: Brenzinger & Batibo (2010) include a mention of African sign languages in his Chapter for the UNESCO Atlas of Endangered Languages, while Sands notes that:

> The linguistic diversity represented by Africa's sign languages alone is greater than that which is widely assumed for the continent's languages as a whole. Documentation of these languages appears to be urgently needed.
>
> (Sands 2009: 564)

It has been reported that there are 27 African sign languages (Kamei 2006) but there could well be more than this. Language documentation is crucial in order to understand better the sign languages of Africa.

Formal linguistic research into UgSL began in 1997, when Victoria Nyst conducted research into handshape variation in UgSL (Nyst 1999) and there was no lexicographical research prior to this. The findings of this research

proposed approximately 53 different handshapes, and focussed attention on the phonological elements of UgSL. Later research by Nyst and Baker (2003) looked at the phonology of sign-names, and made comparisons between the sign languages of Uganda, Mali, Adamorobe and the Netherlands.[8] Sign linguistics research in Uganda continued with a study led by Lars Wallin from 2002 to 2006 in association with Kyambogo University in Kampala, with funding from the Danish Deaf Association (DDL). This was a lexicographic study, resulting in the compilation of the Ugandan Sign Language Dictionary (UgSLD), a collection of 2,199 lexical items and descriptions of their grammatical use in basic UgSL, accompanied by English translations. The UgSLD is representative of the five prevalent regions where Deaf community members live.

Further work on the expression of possession in Ugandan Sign Language was conducted by Lutalo-Kiingi (2008). This included the creation of new elicitation material for collecting data relating to possession. The study highlighted the different ways in which UgSL users convey possession, and focussed on predicative possession and attributive possessive pronouns (for more detailed discussion on possession and existence, see Chapter 9).

---

[8] Name signs are used in the Deaf community to refer to individuals, and may be an alternative to using fingerspelling. These signs are often derived from personal characteristics (Nyst and Baker 2003:71).

3   THEORY AND METHODOLOGY

This Chapter discusses how methodologies have been applied to this thesis. Section 3.1 covers general methodological considerations, while Section 3.2 describes the significance and usefulness of corpus-based methods, including how the corpus data was collected. The processes and challenges inherent in this kind of data analysis are also explored here, including selection of participants, prioritisation of texts, and identification of sentences. Section 3.3 discusses how introspection was married with the corpus-based method, and used to consider both grammatical and ungrammatical sentences. In Section 3.4, ethical issues are considered, including gaining consent, data protection and implications of the researcher's dual role as a scholar and a member of the Ugandan Deaf community. The next Sections, 3.5 - 3.7, cover the data collection and analysis, including how sentences were translated, how salient morphosyntactic topics were identified, and how theories from literature on spoken languages were employed. Lastly, Section 3.8 describes the rationale behind the structure of the thesis.

3.1   General theoretical approach and conceptual considerations

Spoken languages grammars do not always include information about the methodology that has been used during their preparation; furthermore, details have often been omitted concerning quantitative and qualitative data that has been collected or analysed. With this in mind, this research project makes a principled departure from this tendency by including a clear description of research activities, and the methodology that has been used, as detailed below.

This research was carried out using basic linguistic theory, as opposed to formal linguistic theories. In practice, Dixon writes that this means using 'a range of linguistic elements and parameters, which are available to be drawn on, as appropriate, in the formulation of the grammar of a language' (Dixon 2010: 183). What this does *not* mean is approaching a language through pre-existing rigid and formal categories. This survey of UgSL employs inductive theory to determine the rules that govern the language (cf. Solomonoff 1964). Inductive theory involves making predictions or generalisations based on observations. In the field of linguistics, inductive theory involves collecting data and then applying linguistic models and paradigms to it (Litosseliti 2010:52).

Although the researcher is already proficient in UgSL and knows the language well from the point of view of a language user, data was collected without any previous theoretical assumptions. An inductive approach then enabled the examination of the data from a neutral viewpoint. The data was analysed for patterns and regularities in order to apply theory to it afterwards. For example, rather than approaching the use of classifiers with an anticipated framework, such as the categories 'SASS handshapes', 'entity handshapes' and 'handling handshapes' (Schembri 2003) (see Section 4.5.4 on classifiers), the research allowed for the collection of this linguistic feature on a neutral basis, and then identified regularities in its use. This approach enabled linguistic features to be analysed on their own terms, and to be brought together in a comprehensive account.

In order to form the generalisations that are presented in this thesis, examples have been found in the data, and introspection has also been used (see Section 3.3 below). Comparisons have been made with research into other sign languages, and also with spoken languages, as shown schematically in Figure 3.1.
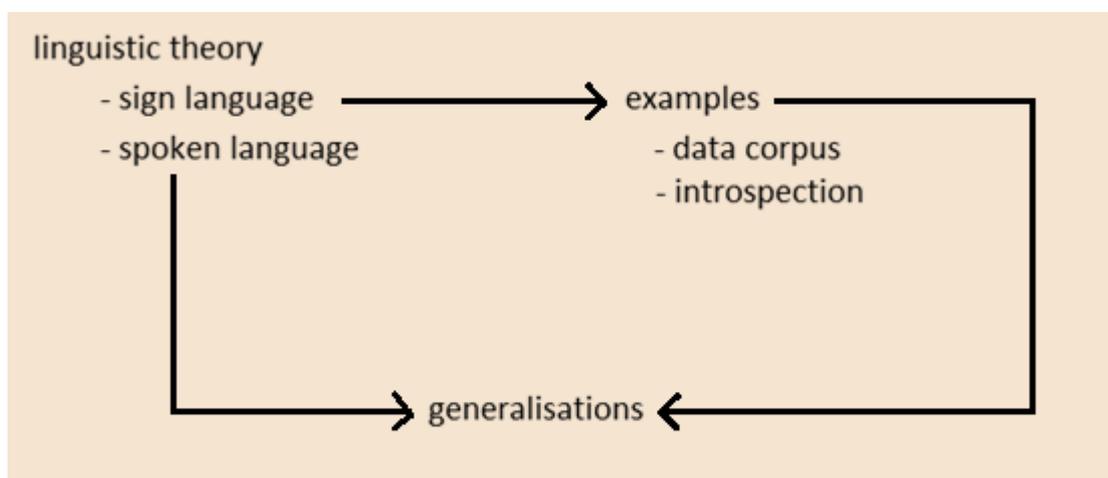
Figure 3.1: A model to show how theory and examples have been used to form generalisations.

An example of the inductive approach that has been used can be given with respect to possession in UgSL. Interesting structures such as the negators PA and NONE had been identified in the data, and these became target structures (see the chapters on negation and possession). The literature was then reviewed in order to locate theoretical frameworks that could be used to analyse and interpret these structures (see Figure 3.2).

Figure 3.2: Identifying target structures in the literature.

At the same time, however, a review of the literature on possession and existence resulted in several references to spoken languages (for example, Lyons 1977 and Heine 1997) and signed languages (notably the collection of chapters edited by Zeshan & Perniss 2008; also Fenlon & Cormier 2006). The literature review suggested established categories of possessives and existentials, such as predicative and attributive possessives, and the corpora could be searched for these target structures. This is summarised in Figure 3.3.

Figure 3.3: Identifying target structures in the corpus

3.2   Corpus methodology

Corpus-based approaches to linguistics involve a methodology that uses a body (or corpus) of data in order to conduct research into a language. Corpora were used as early as the late nineteenth century to look at spoken language acquisition and spelling conventions. Although the field of corpus linguistics developed significantly in the 1950s, it became unpopular for many decades as a result of criticism from Noam Chomsky (McEnery & Wilson 2001:4). More recently, developments in information technology have enabled major advances in storage and searchableness of corpora, and some are enormous, such as the British National Corpus, with approximately 100 million words of British English, both written and spoken (BNC 2010). This thesis makes use of a data corpus, but this is not an example of corpus linguistics in a straight-forward way, since the method includes introspection as well as corpus data (see Figure 3.5 in Section 3.5.1 below).

3.2.1 The emergence of sign language corpora

The first sign language corpus was created for Australian Sign Language (Auslan) in Australia (Johnston, Vermeerbergen, Schembri & Leeson 2007) and was followed by the creation of a Corpus of NGT, the Sign Language of the Netherlands (Crasborn & Sloetjes 2008). Similar projects are currently underway for British Sign Language, Czech Sign Language (Campr, Hruz & Trojanova 2008) and German Sign Language, among others. The UgSL corpus is still in the process of being created. McEnery & Wilson (2001:29) identify four significant properties of corpora: sampling and representativeness, finite size, machine-readable form, and comprising a standard reference. These headings are used below to comment on the current status of the UgSL corpus.

In terms of sampling, the UgSL corpus currently includes 47 Ugandan Sign Language users, of different genders, ages, and regional identities (see Section 3.5.4 for more details). When collecting data, a range of different topics was sought, and the text-types – monologues and dialogues – closely mirror the way in which UgSL is used conversationally, on a daily basis. The researcher also has some other text types collected at more formal events – wedding addresses, a debate between Deaf participants on the rights of Deaf people, and talks at a Deaf awareness event. Some of these data have already been reviewed, and it is hoped that all will be annotated in future in order to make the corpus even more representative of UgSL. The UgSL corpus is very much of a finite size at present, with around 12,000 tokens. Some of the other sign language corpora, in countries such as Australia, the UK and the Netherlands, have been created by teams of researchers over a number of years, with substantial funding from various sources, and are considerably larger than the UgSL corpus. The Auslan (Australian Sign Language) corpus, for example, now comprises over 1,100 video clips (Johnston 2009a) of which 357 have annotation files 'containing annotations at various levels of detail' (Johnston 2009b). Interestingly, the Auslan corpus website notes that:

> The amount of time required for the annotation of signed language texts is enormous and it is anticipated that it will take many years before the Auslan archive becomes sufficiently richly annotated (and hence machine-readable) and qualifies as a true linguistic corpus.

In this sense, the UgSL corpus is very much a work in progress, and there are plans to continue annotating and adding to the corpus over the next few years. The growing number of annotations of the UgSL corpus is making the corpus increasingly machine-readable. Annotations have been made using ELAN,[9] a multimedia annotation tool, which is particularly well-suited for annotating sign language data (see Crasborn & Sloetjes 2008). Using these annotation files, the corpus can be searched for specific UgSL signs and constructions. A second benefit is that new annotations can be easily added to the corpus (cf. McEnery & Wilson 2001: 32). It is worth noting that, even as late as 2000, the technology for annotating files was much less sophisticated than that which is currently available. ELAN was developed in 2001, and several updates have since been launched. There is no doubt at all that new and even more sophisticated software will appear in future.

Finally, McEnery and Wilson (2001) suggest that a corpus may constitute a standard reference for the language variety which it represents. This also means that a corpus is widely available for use by other researchers. The UgSL corpus is being organised, and will be archived at the International Institute for Sign Languages and Deaf Studies at UCLan, in Preston. In future, it is hoped that the corpus will become publicly available, in a similar way to the BSL corpus (www.bslcorpusproject.org) and the NGT corpus (www.ru.nl/corpusngt). This would depend on funding, but it would constitute an important step for the development of sign languages in Africa, since no corpora are currently available in the African continent apart from the UgSL one.

3.2.2 The importance of spontaneous data

The methodology for this research is empirical, and makes use of the natural, spontaneous language of UgSL Deaf participants. Texts have been described

---

[9] ELAN is an acronym of **E**UDICO **L**inguistic **An**notator. EUDICO is itself an acronym for **Eu**ropean **Di**stributed **Co**rpora. ELAN (http://www.lat-mpi.eu/tools/elan/) was created at the Max Planck Institute for Psycholinguistics, in Nijmegen, the Netherlands.

as 'the lifeblood of linguistic fieldwork' (Dixon 2010: 321), and in order to ensure that the corpus reflects the real, everyday signs and structures of UgSL, the data collected largely comprises spontaneous texts. Informants were not asked to translate sentences from English into UgSL, for a number of reasons, which are outlined below.

Firstly, it is well-known that sign language users are often easily influenced by the grammar of spoken language (e.g. Zeshan 2006:36). For example, if asked to translate the sentence 'I explain to you' Deaf people are likely to produce at least three signs: I, EXPLAIN, and YOU. But in everyday conversation, Deaf people do not normally use this structure: instead, only one sign – EXPLAIN – would be used. Similarly, the strategy that signers use for negation might be affected by seeing negative markers that are used in English. This is perhaps especially the case because of the oral education that most Deaf people received at school. It is highly likely that those informants who went to school were expected to use grammatical structures in the classroom, and using English to elicit signs or sentences can lead to informants signing 'unnaturally,' that is, differently to how they would normally use UgSL. Furthermore, on a practical level, some local words do not have English equivalents, which means that lexical elicitation using English is a flawed method. For example, UgSL users have a sign, MUKO (from the Luganda word, *muko*, meaning 'brother-in-law'). If an attempt were made to elicit the UgSL sign for 'brother-in-law' by using English, it is likely that a signer would try to use a different sign, and thus express the concept in a different way to normal. Another sign, TEWAALI, means 'don't do that', but signers would perhaps produce a different sign if asked to translate the sentence *don't do that*. Non-manual features such as facial expressions are also inhibited by elicitation. These have a range of functions: for example, the sign TWO could be articulated in many different ways. Again, use of elicitation is likely to inhibit these functions, which would lead to a very partial impression of the grammar of UgSL. There are other ways of eliciting data, for example using visual elicitation materials, and these may be more effective at generating examples of natural language use. However, the current study uses data collected by filming natural conversation in order to capture the structures of UgSL as it is used among Deaf people.

3.2.3 The advantages of corpus-based methods

This study of UgSL morphosyntax makes use of corpus data methodology, allowing analysis of a representative sample of natural language (cf. Zwitserlood 2003: 33) and an appreciation of theoretical underpinnings on an applied level. Using a corpus-based methodology has a number of important advantages. Corpora are particularly well-suited to the inductive approach, as they make available a large amount of data from which inductive generalisations may be made. Furthermore, generalisations made on the basis of one part of the data can sometimes be tested with respect to other parts. Evidence from the corpus can be used to assess the 'current state' of UgSL. For example, a number of Deaf international visitors to Uganda have commented that UgSL mostly uses ASL.[10] But a quick survey of the corpus shows that this is not the case. For instance, in order to respond affirmatively, signs such as YES – which are frequent in ASL – are actually quite rare; it is much more common for UgSL users to provide affirmation using head-nods.

Sometimes, older and rarely-used signs occur in the corpus. For example, an old sign AFTER was seen in Kampala (see Figure 3.4). The researcher already knew of this sign, but did not realise it was still in use. The occurrence of this form shows that the sign is indeed still used, even if rarely.

Figure 3.4: The sign AFTER

Corpus-based methods also enable the generation of quantitative evidence. For a given type, such as the negative form PA, many tokens can be found, and these can be categorised in order to reveal something about the function of this form. In fact, many different meanings of PA were found in the data, and this

---

[10] Personal experience

only emerged once several examples of PA were analysed in the context of particular sentences.

Another advantage of creating a corpus is that it can be used in the future, for further research. This survey documents the kinds of structures that can be found in the data, but more detailed analyses are needed in future. For example, more research is needed into the effects of non-manual expressions on the meaning of manual signs, and the corpus would prove to be an excellent resource for such a study.

3.2.4 The challenges of a corpus-based approach

In the 1950s and 1960s, corpus linguistics was heavily criticised by the linguist Noam Chomsky. Chomsky felt that corpus linguistics focused too much on performance at the expense of competence (McEnery & Wilson 2001: 12), and argued that real language contains many performance-related errors. The strengths of the corpus-based methodology have been set out above, but it is true that using a corpus presents many challenges. On occasion, it has proved to be difficult to understand a conversation fully, simply because the situation that is being described is not fully known to the researcher. A way to try and remedy this is to seek clarification or explanation from informants, and the researcher has been able to do this in some cases.

Another example of difficulties when looking at data from around Uganda stems from cultural differences that exist between regions. For example, in the Kampala region of Uganda, cows are not an important part of the local culture, but in the Western region, cows are integral to daily life. As a result there may be implications, for example, for the way in which people express the alienability of possessions (see Chapter 9, Section 9.1.2). In general, it is arguably inevitable that a small proportion of the text will be problematic, perhaps because the sign is not visibly clear, or is difficult to interpret, or is expressed in a confusing way. It is not essential that all signs are included – the important thing is that real examples of UgSL are being used in order to draw conclusions about the grammar of UgSL. Further challenges include the following:

- There will be gaps in paradigms on the basis of corpus evidence only. For example, a pronoun form may occur in the data with addressee

and with third person reference, but not with first-person reference. The corpus alone cannot tell us whether the first person form exists or not.

- It is not possible to test the full possibilities of constructions and check hypotheses. For example, if a WH-sign is found in the corpus clause-finally only, we cannot know whether clause-initial placement is also possible.

- Consequently, a corpus alone can never give negative evidence; it only shows what has occurred in the corpus. Finding that an utterance would be ungrammatical can often help in linguistic analysis, but this is only possible through eliciting grammaticality judgments and cannot be found from a corpus alone.

3.3 Introspection

As a native UgSL user, the researcher was able to use introspection when analysing the data collected. Specific grammatical features from the corpus were able to be compared with the researcher's own natural use of the language in order to compare the filmed data with native user intuitions. When using ELAN to analyse the data, the translation of meaning was occasionally difficult, and reference to personal language use aided the understanding of meaning. The use of examples from the corpus are indicated by a video file reference, e.g. (Uga.anna.eaf.00:01:34) and the absence of this indicates that an example is taken from other sources, such as native user intuition. A notable advantage of introspection is that it enabled the formulation of grammaticality judgements. Introspection was necessary for all *negative evidence*, for example where forms are judged ungrammatical (a number of grammaticality judgements have been made in Chapter 8 in the domain of negation, for example). Since all the data are natural conversations, all grammaticality judgements have been made by the researcher.

Introspection also allows for the availability of complete paradigms, that is, the complete and definite set of possible forms. This is necessary because not all forms may occur in the data naturally. A lot has been written about introspection in the debate between those who favour generative methods and those who prefer empirical approaches (see for example Kertész and Rákosi

2008). One of the key problems with introspection is seen to be the fact that it violates a fundamental rule concerning scientific investigation: that of independent access to both causes and effects (Dellarosa 1988:5). This means that judgements that an individual makes on the basis of introspection cannot be independently corroborated. However, Munro notes that 'the languages on which field linguistics is done typically have few if any native speaker linguists' (Munro 2001:130). Introspection was also used alongside analysis of the corpora and reading of previous similar research. This process enabled comparison to be made of native language user's intuition, previous findings and current findings, for the purpose of triangulation. It is argued here that introspection, when used in conjunction with analyses of corpus data, is a strength rather than a weakness, but it would be good to include grammaticality judgements in future research in order to test the findings that are presented here.[11] Particular caution was taken to identify times when the discrepancy may be due to personal language error. But the possibility of cross-referencing with different signed languages enabled the analysis and interpretation of the data at an effective level. This use of introspection, after the collection and annotation of the data, enabled the determination of grammatical patterns of language use, alongside theoretical generalisations. However, it has been necessary to rely on introspection for some domains more than others. For example, few classifier constructions occur in the data, and so it has been necessary to rely on introspection and examples that have been observed at other times by the researcher when communicating in UgSL.

3.3.1 Use of other signed and spoken/written languages

Knowledge of other sign languages enabled comparisons to be drawn, in order to obtain a better understanding of UgSL. For example, the researcher is fluent

---

[11] A few adhoc attempts to elicit grammaticality judgements have already been made, but it proved difficult because informants could not understand why the researcher was asking them about his own native language (see Section 3.3). More work will be necessary in order to select the right informants and create the right environment for the elicitation of grammaticality judgements.

in BSL, which is used by the Deaf community in the place of study. Additionally, the researcher knows Kenyan Sign Language (KSL) (from school), some American Sign Language, Danish Sign Language (DSL), and Tanzanian Sign Language (*Lugha ya Alama ya Tanzania*, LAT).

Grammatical structures could sometimes be compared across different sign languages in order to consider how a particular concept or expression is articulated in UgSL. Several spoken/written languages are also referred to, including English, Luganda and Swahili, in order to explore semantic and grammatical issues.

3.4 Ethics

3.4.1 Informed consent

Some of the corpus data used for this research was collected in 2003 as part of the Ugandan Sign Language Dictionary project (see Section 3.5.2), and consent was obtained only for that particular project, in conjunction with the Ugandan National Deaf Association (UNAD). The data has since been stored at the Deaf Studies Section of Kyambogo University. Permission to use the data has been granted by the head of the Deaf Studies Section. However, for those whose data are being used again for detailed analysis, it has been decided to approach informants again to obtain consent, since the purview of the consent that was obtained previously does not include the current project. Ethically, it is considered important to do this. Hence, consent has been obtained from all those who are named in this thesis. All examples that have been used in the thesis – both in video clips and glossed examples – have been produced by informants from whom informed consent has been obtained. Data produced by other informants, from whom consent has not been obtained, have been observed but are not included formally in this analysis.

In 2003, it became clear that it was not appropriate to ask for signed consent from some informants, since they did not have a strong educational background. This meant that the very idea of asking for consent on paper was incommensurate with the cultural background of the informants. For example, some informants thought that signing the form meant they would receive money. Therefore, a range of measures were put in place to make sure that

people were informed and understood as far as possible the implications of giving consent. In 2009, consent was obtained in one of two ways: either formally, on paper, or informally, through the filming process (See Appendix 3 for a copy of the consent form that was used). Before filming, the researcher explained the aims of the research, and what he wanted to film. Once the aims had been described and informants understood the kind of filming that was to take place, the act of being filmed automatically indicated the conferral of consent. Sign language users were invited to take part, but it was made clear that they were under no obligation to be filmed. The researcher made sure that participants realised what was to happen to the data afterwards, and if participants wanted to withdraw at any point, they were aware that they may do so. Following filming, participants were invited to view the data that had just been recorded. This gave them the opportunity to reflect on whether they were happy for their data to be used by the researcher. A number of informants have requested to have a copy of the data on CD, and this will be done at the end of the project, as the participants have a right to see their own data.

Formal consent was only sought once filming had finished, for two reasons. Firstly, it enabled participants to understand what they were giving consent for. Seeking consent prior to filming would have been difficult for many of the informants, as they would not necessarily understand what they were being asked to do. The second reason is that, for Deaf informants, the act of filling in a form has strong associations with schooling, and there is a fair chance that informants would feel pressure to use a higher, more formal register. Going through the form *after* filming helped to minimise the influence of English on the data. The concept of having a photograph used in publications, such as CD-ROMs and books, is not particularly easy to explain to informants, since they are not familiar with such publications. However, the concept of a photograph appearing in a publication was explained as having one's photograph made available to be seen by the general public. A few informants said that they did not want the researcher to keep the data, and the researcher asked some more questions to find out why the informants were concerned. For example, in some cases informants were happy for their data to be used for analysis, but simply did not want their image to be reproduced. In these cases, it was agreed that the data would only be used for observation purposes.

3.4.2 Data protection

Data have been carefully stored since the time they were collected. Once back in the UK, they have been stored in a locked cupboard, to which only the researcher has access. The files are in the process of being uploaded to a browsable corpus, which follows IMDI standards (the ISLE Meta Data Initiative). This is 'a proposed metadata standard to describe multi-media and multi-modal language resources'. The advantages of IMDI include 'interoperability for browsable and searchable corpus structures and resource descriptions with help of specific tools' (www.mpi.nl/IMDI). A separate corpus function enables access to the data to be controlled by the researcher, who is responsible for honouring the different levels of permission granted by informants. IMDI will also enable the long-term storage of the data in a secure and organised corpus, which will ensure that the data is available for further research. This will ensure that the use of the data is maximised, which is important in order to make sure that UgSL users are not disturbed more than is necessary.

3.4.3 Role of the researcher

The role of the researcher has changed considerably, from a research assistant in the UgSL Dictionary Project (2000-2006), to student researcher for the current project (2008-2011). At the same time, the researcher has been, and continues to be, an active member of the Ugandan Deaf community. As a UgSL user, the researcher is able to communicate fluently with all of the informants. Of the Sign Language Communities' Terms of Reference principles proposed by Harris, Holmes and Mertens, the first is of particular relevance here:

> Principle 1. The authority for the construction of sign language meanings and knowledge rests with Sign Language community members.
>
> (Harris, Holmes and Mertens 2009:115)

In order to make sure that this research is an accurate representation of UgSL, the research should be 'by Deaf, for Deaf, and with Deaf people' (Harris, Holmes and Mertens 2009:116). As a Deaf member of the community of UgSL users, working and communicating fluently with other UgSL users, the researcher is able to ensure the application of this principle at an optimal level. Interestingly, the informants sometimes expressed confusion about the role of

the researcher. For example, if the researcher asked them a question about UgSL, or about the Deaf community, they would say something like 'Why are you asking me this? You already know the answer' or 'You know more than we do about this!' In such cases, the researcher patiently explained that it was important for the informants to offer their own views.

As someone who knows a lot about the history of the Ugandan Deaf community, it was sometimes difficult for the researcher to remain totally impartial. For example, sometimes informants asked the researcher about certain things; in these situations, it would not have been appropriate not to answer, as this would have seemed rude. Instead, the researcher gave a short answer, and then let the informants continue their discussion. When filming monologues, informants sometimes started to chat with the researcher, which is understandable given that the researcher is also a UgSL user. However, after a brief response, participants were encouraged to continue the monologue. If they found this too difficult, a second informant was sought, and the text type was changed from a monologue into a dialogue. While he is a member of the Ugandan Deaf community, the researcher is also a member of staff at Kyambogo University, where he has worked as a UgSL instructor and a researcher. For the production of the UgSL Dictionary, a partnership was created between Kyambogo University, which provided the academic expertise, and the Ugandan National Association of the Deaf (UNAD), which provided access to the Deaf community. The partnership between Kyambogo University and UNAD is a good example of practical ethics. If informants had any difficulties with research staff, UNAD would contact Kyambogo University, and likewise, if difficulties arose for researchers in the field, Kyambogo could get in touch with UNAD. The current project is a continuation of this partnership, and the involvement of UNAD has been particularly important for this research project. UNAD have been able to put the researcher in touch with Deaf people in different regions, and it is important that Deaf people know about UNAD's involvement.

The fact that the researcher is himself a Deaf Ugandan is very significant, as this is the first time that a member of the Ugandan Deaf community has studied at PhD level. Informants seemed to be proud of the fact that a Deaf Ugandan is conducting this research, and the researcher is an

important role model in this respect. It is hoped that the views held by Deaf and hearing people, concerning what Deaf people can achieve, will be challenged, and that some other Deaf people will feel inspired to conduct their own research into Ugandan Sign Language and the Ugandan Deaf community.

3.5 Data collection and analysis

3.5.1 Data sources

The vast majority of examples on which this study is based are taken from the corpus. Two different sets of data have been used to form the corpus of UgSL for this research. The research has made use of a previously collected set of data that was collected in 2003, as part of the Ugandan Sign Language Dictionary project. Another set of data was collected by the researcher in 2009. Both sets of data are described in more detail below. The researcher also made recourse to introspection, and this is explained in Section 3.3. The sources of the data are summarised in Figure 3.5.
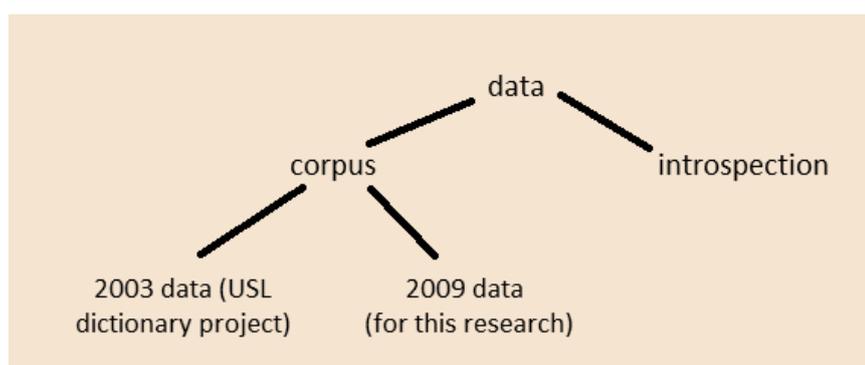
Figure 3.5: A summary of data sources

3.5.2 Data collected in 2003

The first set of data was collected as part of a research project conducted by Lars Wallin, Dorothy Lule, Sam Lutalo-Kiingi and Bonny Busingye between 2002 and 2006. The aim of this project was to create a Ugandan Sign Language Dictionary, and one of the objectives was to 'collect and record the signs used by the Ugandan Deaf in a way that gave a fair representation of the language as it exists now' (Wallin et al. 2006: 26). Around 20 to 30 hours of conversational data – including personal life stories and topics such as education, politics, and cultural events such as weddings – were recorded in 2003. Data was collected from six different locations in Uganda: Kampala, the

capital city; Mbarara, in the west; Kumi and Mbale, in the east; and Lira and Gulu, in the north (see Figure 3.6). In each location, 20-30 people were filmed, signing monologues and dialogues, and over 100 Deaf informants were included overall.

http://mapsof.net/uploads/static-

Figure 3.6: Map of Uganda showing the six locations used in 2003.

This data was not annotated, but was used as a stimulus for discussion with representatives from six regions of Uganda (ibid: 27). Once the signs had been approved, they were then entered into the dictionary. The data collected for this project were not entered fully into the dictionary, but are stored by the Deaf Studies team at Kyambogo University in Kampala, and remain available for further research purposes.

As a member of the research team, which collected the data originally, the researcher has access to this data.

As this was the first experience of data collection for most members of the research team, much learning took place during the process. Several issues can now be identified as having adversely affected the quality of the data. Firstly, some of the data included information about the camera settings on screen, which visually obscured the informants, or creates distraction when viewing the data, and this could not be removed from the shot afterwards. Secondly, informants were not always filmed in optimal conditions, especially in terms of lighting and the position and angle of informants relative to the camera. Finally, the aim of the recording was limited to the task of creating a dictionary, since it was not clear at this stage that the data would be used to examine the grammar of UgSL. With these points in mind, it was decided that most of the data was not suitable for inclusion in a corpus. However, some of the data was still of value. All of the data was therefore reviewed, and in addition to considerations of data quality, three further criteria were applied in order to review the data: signing must be fluent; a range of different topics must be discussed; and all of the locations must be represented. Fluency is the key criteria for the data used in this thesis. Because natural, fluent, conversational

54

language is given salience, the main sources of evidence are primary; thus, the evaluations made here rely on the heretofore unanalysed conversation of native signers (cf. Croft 1990:25-6). The level of fluency was judged by the researcher, who is a native user of UgSL. Criteria for fluency include use of UgSL grammar as opposed to sign supported English, signing in a relaxed fashion, and regular involvement in the Deaf community. In this way, the informants constitute a representative sample of the Deaf community, which uses UgSL. The data that was retained comprises three hours and 54 minutes, and 26 informants from different parts of Uganda. This has become part of the organised corpus of UgSL (see Table 3.1, below).

3.5.3 Data collected in 2009

The final set of data was collected in 2009, in order to augment the corpus with data of a higher quality, and included topics that had not been covered previously. Among these topics are: experiences of school, employment, communication with family, the relationship between gestures and UgSL, Deaf organisations, and local life. The aim of this was to ensure that the final corpus would be wide-ranging in terms of the topics covered. Altogether, four hours and eight minutes of data was collected from 21 informants in 2009. Again, only fluent signers were filmed, in accordance with the criteria outlined above in Section 3.5.1. All participants had previously attended a school for the Deaf. This method allowed for natural language use to be captured into a corpus containing all the sign language data available. It was decided only to collect data from adults, rather than children, since there are older signs that are in danger of disappearing. These are used by older generations of signers. Children would be unable to discuss topics such as politics, or tell stories from the distant past. There would also be complex ethical implications for filming children; for example, children are not in a position to give consent.

In order to ensure that signers from different regions were represented in the corpus, and that no one regional variety became too dominant, data was collected at a national Deaf awareness event held in Kampala, which was attended by Deaf people from around Uganda, in September 2009. Some of the groups at the event comprised Deaf informants from the region, while others involved two Deaf people from different regions. However, most participants

filmed in 2009 came from Kampala. Participants were initially filmed in pairs during loosely-structured dialogues, where they were given a discussion topic and then continued with minimal guidance from the researcher. This guidance was given when, for example, a participant was unable to remember a certain specific date and the researcher aided the memory of the informant; or the researcher, observing the dialogue, wanted to take a certain line of discussion further. Following this, participants were asked to discuss aspects of their life experiences in narrative form. In terms of conversational types, both monologues and dialogues were selected in order to profit from the advantages of each type. Dialogues are important because they enable the use of interrogative structures, which do not usually occur in monologues. Monologues are useful because the informant can face the camera fully, enabling all non-manual features and use of space to become visible. Interestingly, some sign language users in the Eastern region of Uganda use signs and structures from Kenyan Sign Language (KSL), to a greater or lesser extent, for example in the domain of numerals and interrogatives. This can be explained by the geographical proximity of Kenya, which lies to the east of Uganda, and by the language contact that has recently occurred. The Deaf school in Kampala pre-dated the school in Kumi, and there was little contact between the schools in Kampala and Kumi. Conversely, there was much more contact between the schools in Kumi and Kenya.

Since the 1980s, many Deaf Ugandans have been to school in Kenya, and on returning to Uganda may be fluent in both KSL and Ugandan Sign Language. However, there are now three secondary schools that Deaf people can attend. Two are only for the Deaf, in Kampala and Mbale, while the other, in Kumi, provides mainstream education with interpreters in the classroom. As a result, only a few Deaf Ugandans now attend the Deaf school in Kenya. Recently, UgSL signs have become more common in the Eastern region. This is due to two factors: the influence of UNAD, which has had its base in Kampala since 1973, and has grown considerably since the mid-1990s; and the training of teachers of the deaf, which has taken place at Kyambogo University, also in Kampala, since 1988. Especially in the Eastern region, the distinction between KSL and UgSL signs has perhaps become clearer, not least following the creation of UgSL and KSL dictionaries, although some KSL signs do occur in

the data. Before filming, informants were instructed to use UgSL rather than KSL. Additionally, the researcher knows both KSL and UgSL, and was able to take this into account when reviewing the data.

3.5.4 Creating the corpus

Figure 3.7 shows clearly the origins of the data that have been explained above in Sections 3.5.2 and 3.5.3. An overview of both sets of data – from 2003 and 2009 – is presented in Table 3.1, in order to show the composition of the organised corpus. Overall, the organised corpus comprises eight hours and three minutes of   data.
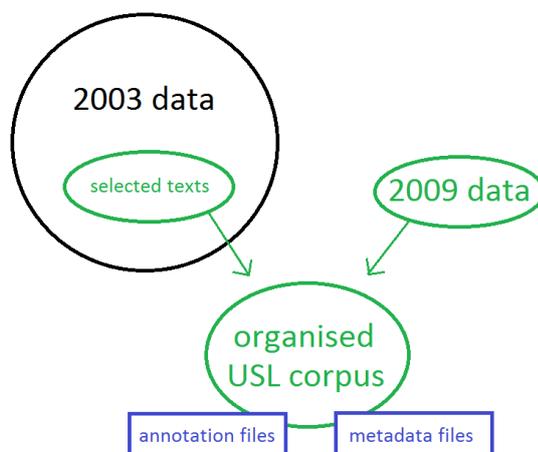
Figure 3.7: Creation of an organised UgSL corpus

Set	Year	Informants	Size (mins)	Original aim of data collection
1	2003	26	234	to create stimuli for discussion of lexicon
2	2009	21	248	to augment the corpus
Total		47	482	

Table 3.1: An overview of the two different sets of data that have been used to create the UgSL corpus.

Having collected and selected the data, an organised UgSL corpus is being created by archiving the data in a larger corpus. This larger corpus is hosted by the International Institute for Sign Languages and Deaf Studies (iSLanDS) at the University of Central Lancashire, and has a tree structure (see Figure 3.8). The UgSL corpus will be browsable online[12] although, at this stage, permission will be needed in order to view the files.
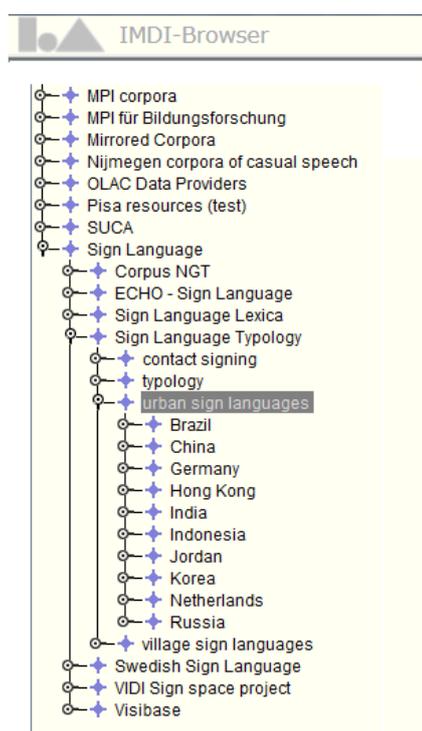
The process of uploading and organising the data files is ongoing, and metadata files are being added for each file, along with annotation files when applicable. Metadata includes the name, sex, school, region and topics of each clip, along with the level of consent that has been granted by informants.

Figure 3.8: Part of the Corpus Tree Structure of the iSLanDS Corpus.

3.5.5 Representativeness of the corpus

In Section 3.5.2 it was mentioned that six locations were used for filming in 2003. These have since been regrouped as four distinct regions – the North (Gulu and Lira), the East (Kumi and Mbale), the West (Mbarara) and Kampala. Some key metadata for the 47 informants are shown in Appendix 1. Of the 47 informants who appear in the corpus, 26 are from the 2003 set, and 21 from the 2009 set. It is important to make sure that the numbers of male and female informants are broadly balanced, because there may be variation between male and female UgSL users. Twenty informants are female (43%) and 27 are male (57%), which is considered to be an acceptable balance. Regional background has been defined in terms of the place where informants were filmed. Fifteen

---

[12] The corpus can be browsed at http://latserver.uclan.ac.uk/ds/imdi_browser.

informants were filmed in a location that is different to where they attended primary school, while 20 attended secondary school in Kenya. Given the extent to which Deaf people move around Uganda, it would be very difficult to find participants who have lived *only* in one region. For this reason, it has been decided to note regional background only in terms of where informants were filmed in Kampala.
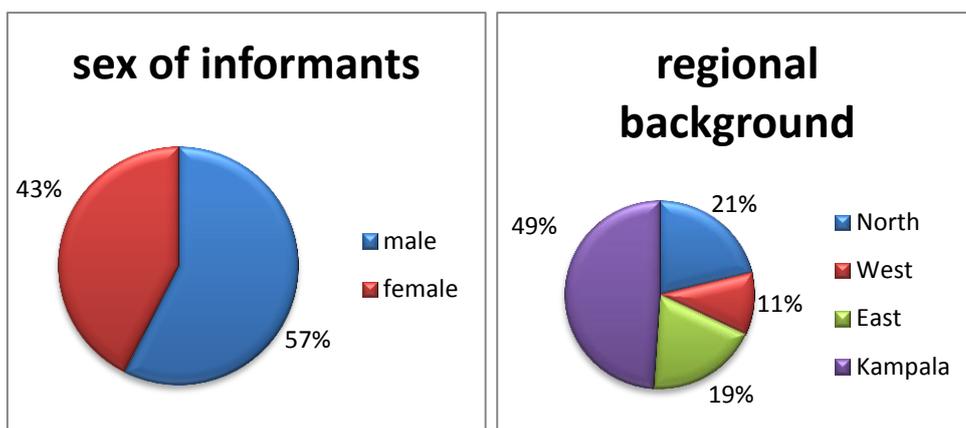
Figure 3.9: Breakdowns of the informants according to their sex and regional background

In the Northern, Western and Eastern regions, most informants grew up in the area where they were filmed. Nearly half of informants were filmed in Kampala (see Figure 3.9), but many Deaf people move to Kampala in order to find employment, so of the four regions, the informants filmed in Kampala are the most diverse in terms of their backgrounds. For this reason, it is argued that the sample is sufficiently representative in terms of regional background.

Although there are now primary schools in the Northern region of Uganda, this has only been the case since 2006, which means that the informants had to attend a school either in the West, the East, or in Kampala. Until the 1990s there were no secondary schools for the Deaf in Uganda, and some children travelled to Kenya to complete their education (Wallin et al. 2006:7), but since the 1990s two secondary schools have been founded in Uganda (see Section 3.5.5). It is important to include participants who have attended deaf schools in different areas, as there is anecdotal evidence that some signs vary from school to school. Figure 3.10 shows where the informants attended school.

59

location of school attended by informants

- Kampala
- Western region
- Eastern region

53%
41%
6%
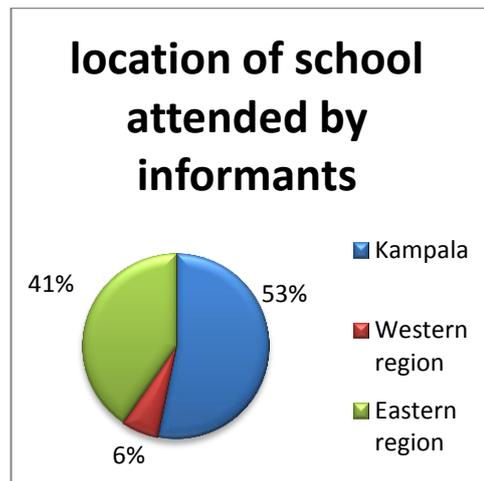
Figure 3.10: A breakdown of informants according to the school they attended.

3.6 Data analysis

In Section 3.1, it has been explained that two approaches have been taken, one that begins with the literature, and another that begins with the data. Reviewing the literature on topics such as possession enabled the identification of relevant terminology. It was also helpful to look at examples of the way in which target structures are expressed in different languages – not just in English, but in African languages too – in order to get a better understanding of the range of possibilities within a domain. Due to the lack of research and limited amount of literature on sign languages in Africa, the literature review included African spoken languages too. Where possible, discussion of African languages (signed and spoken) is included, as they are more culturally relevant to UgSL. Once the literature on the domain in question had been explored more fully, and different theoretical frameworks had been identified, the next step was to consider how these relate to sign languages, and especially to UgSL. For some domains, it seemed that little research has been conducted. For example, it was difficult to find much information in the literature on various pronominal paradigms for more than a handful of sign languages. At the same time, this suggested that it would be particularly worthwhile to conduct research on this domain in UgSL. Meanwhile, it had quickly become apparent from observations during the collection and annotation of the data that certain UgSL structures are of great interest, as they are cross-linguistically unusual. Once these target structures had been observed, the next step was to look more closely at these structures and see what could be learnt about them.

It was often necessary to review the annotations that had been made, and in some cases these were changed as a result of new insights and decisions that had been made. For example, the sign PALM-UP had tentatively been glossed as an interrogative because the form of the sign is the same as in the general WH-question sign. For each domain, it was necessary to identify as many examples as possible for each target structure. It was then important to take the time to consider 'How does this form function in UgSL? How do these examples work?' The examples, or tokens, could then be grouped, either according to theoretical categories, or according to various distinctive features that were observed in the data (see Figure 3.12 for an example of how possessives and existentials in UgSL have been categorised). In cases where the theory did not seem to reflect the data well, it became particularly important to allow the categories to emerge from the data, rather than trying to make the data fit the theory.
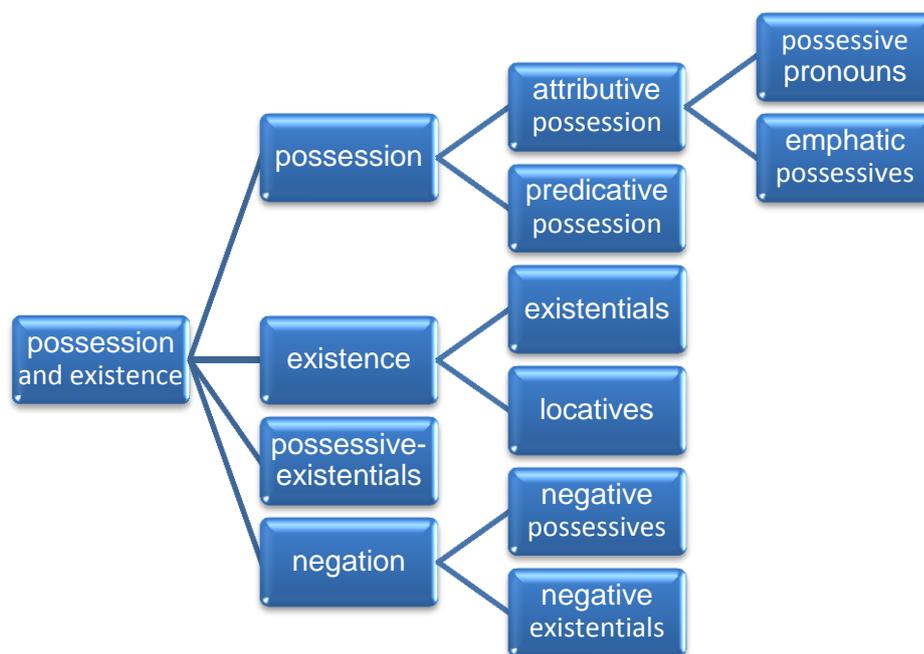
Figure 3.11: Categorisation of possessives and existentials in UgSL

In some cases, however, it was necessary to use introspection, as there were very few, if any examples in the data. This was true, for example, of the signs WH-IX-$_{TWIST}$ and WH-IX-$_{SUPINE}$ (see Section 7.2.2). Another very useful resource was the UgSL Dictionary (Wallin et al. 2006). Gaps in the data could sometimes

be filled by using information in the dictionary. Also, where lexical items in the data were identified as idiosyncratic, reference was made to the dictionary in order to find conventional examples of the item in question, as agreed by UgSL users during the UgSL Dictionary Project. In some cases, it became clear that forms had more than one function, and it was decided to look at the distribution of these functions. In order to do this, tokens were found and categorised according to different functions. For example, two signs – PA and NONE1 – appear to function as negative possessives, negative existentials and clause negators. By looking at the distribution of these functions, it has been possible to draw tentative conclusions about the negation of possession and existence in UgSL. The overall aims of analysis were to get a sense of how the structures are used in UgSL, and how they work in terms of morphosyntax. It was particularly instructive to find interesting examples, and also to identify exceptions, where appropriate. The comparison of different categories, and the identification of similarities, often lead to informative descriptions.

3.7 Working with data

3.7.1 Prioritisation of texts for annotation

Once the texts for the corpus had been selected, these texts were reviewed again, in order to prioritise texts for annotation. Specifically, texts were prioritised on the basis of content, in terms of the range of topics and a broad range of structures, including numerals, negatives, questions and non-manual features. The clarity of the image was also taken into account; for example, texts were prioritised where informants had been filmed with a clear background, which eases the annotation process. Details of the clips that have been annotated to date can be found in Appendix 2, along with the conversational type (monologue or dialogue), and the topics covered. In total, 2 hours and 53 minutes of data have been annotated. Not all of the data in the corpus have been annotated, due to the vast amount of time that annotation requires. It has not been possible to recruit additional research assistants to work on the data in the UK, as no UgSL users were available in that country. Of necessity, the scope of annotation has therefore been narrowed to focus on linguistic phenomena that are relevant to the study, such as grammatical particles and non-manual features. However, the process of annotating the

corpus is continuing, since the utility of corpora are 'considerably increased by the provision of annotation' (McEnery & Wilson 2010: 32).
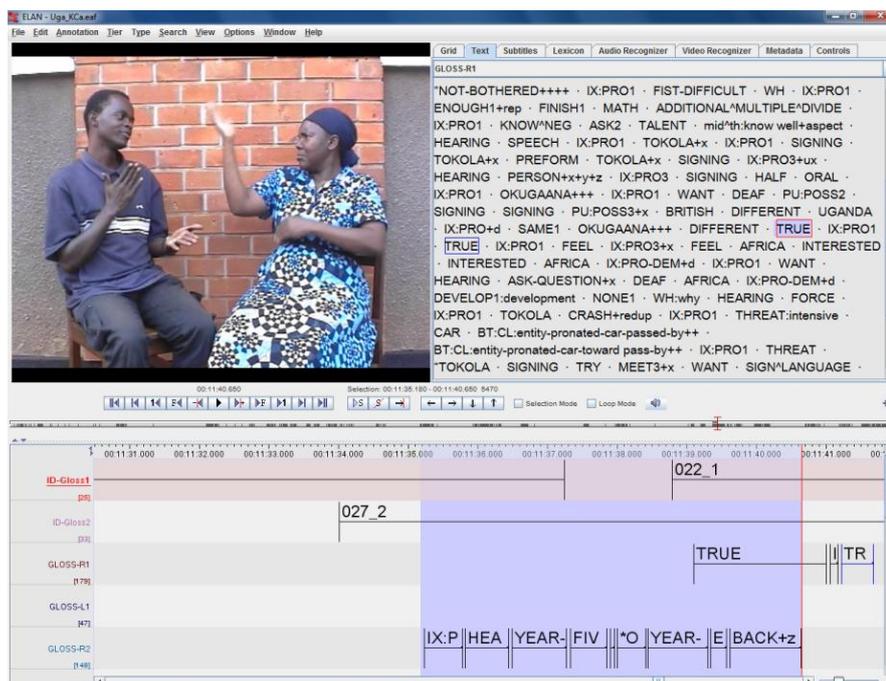
Figure 3.12: A screenshot of ELAN, showing some of the annotation that has been created.

Figure 3.12 shows a screenshot of ELAN. The advantage of using ELAN for annotation is that the corpus becomes fully searchable. The annotation of data makes it much easier to identify examples of target structures, and these can then be analysed in order to create descriptions of the ways in which these structures are used (see Section 3.6 on analysis).

3.7.2 Annotation of the data

Annotation files have been made for a selection of corpus texts using ELAN (see Section 3.7.1 for more information about this). Complete word-level annotations (glosses) have been made for a number of texts, while partial annotations have been made for target structures such as non-manual features. The annotation files include one or more of the types of annotation set out in Table 3.2.

1.	Main Gloss	Glosses for manual signs; if both hands are articulating the same sign, this sign is glossed on the Main Gloss. If the text is a dialogue,

		with two people signing, Main Gloss (a) and Main Gloss (b) are used. Variants, and/or related signs, have been glossed as NONE1, NONE2 etc.
2.	Non-Dominant Hand	Gloss for non-dominant hand; used only if the non-dominant hand is articulating a different sign to the dominant hand.
3.	Non-manual features	'Non-manual' refers to components of sign language that are *not* articulated by the hands, i.e. those produced by the head, the face, the shoulders, and the torso. Specific annotations have been made concerning the occurrence of headshakes, eyebrow movement, and mouth gestures.
4.	Comments	Observations relating to anything that is perceived to be of interest or significance (grammatical, lexical, phonological, etc).
5.	Word-level translation	A free English translation (though see Section 3.3.1 on Swahili and Luganda spoken languages).
6.	Identification of discourse parts	The largest possible sections of data at the discourse level have been identified by looking at topic and, in dialogues, turn-taking.
7.	Placement in sign space	Loci within the sign space have been identified with respect to verbs/directionality (x/y/z) and also for pronouns (1/2/3).
8.	Handshape	Pointing signs have been noted, along with information about the handshape (for example, index finger, thumb, flat or bent palm).
9.	Reduplication	Reduplicated signs have been noted, including the number of reduplications. This is related closely to the aspectual marking of verbs.
10.	Negation	Negatives have been indicated in various ways: for some negative markers, the Luganda

		word has been used for the gloss (for example, TEWAALI 'don't do that'), but English has been used too (e.g. NONE), while others are named after a description of the mouth gesture that they contain (e.g. PA). Negative affixes have been indicated using –NEG or ^NEG.
11.	Possession and existence	Possessives and existentials are noted using a range of codes that have been created to show their form and function (see Section 9.2).
12.	Compounds	Compounds have been identified, for example 'mother' is WOMAN+BORN.
13.	Fingerspelling/name signs	These have been indicated with the letters FS and SN, respectively, for example FS:SAM and SN:SAM.
14.	Holds[13]	Using the annotation HOLD, four different types have been identified: (a) holds that occur as part of timelines; (b) pronouns that are articulated simultaneously with part of the previous sign; (c) other, non-pronominal signs that are articulated simultaneously with part of the previous sign; (d) holds that occur as part of enumeration strategies.

Table 3.2: Types of annotation that have been included in the annotated files.

There were two criteria for selecting these particular types of annotation. Some types are critical for investigating particular domains of interest (see Section 3.8 on structuring the thesis). For example, in order to research non-manual features (Section 4.6 of Part II) it was necessary first to identify these features in the data. The second reason for including these types is that they allow for a good understanding of the data more generally. There is a considerable amount

---

[13] My thanks to Anna Safar for the information she has shared concerning holds.

of overlap between Parts II and III of the thesis, and the preliminaries in Part II are intended to provide some background to the chapters in Part III.

3.7.3 Annotation principles

Full lists of the abbreviations that are necessary in order to understand examples from the data can be found on pages 19-23. When creating codes for annotation, the most important requirement is consistency, and forms have always been glossed in the same way. This is necessary in order to avoid confusion and to ensure that the data is analysed comprehensively without making simple mistakes. One-to-one mapping has been used: one and the same sign cannot be glossed in more than one way, and one and the same gloss cannot be used for more than one sign. At the same time, it is important to be flexible, so that annotations provide an optimal amount of information for the analysis of specific target structures. Rather than annotating all data using a rigid set of dimensions, each domain has been approached separately to make sure that the annotations support the analysis, and the annotation of target structures focuses on what is important for or particular to the specific domain that the structure inhabits.

The form and function of the sign has been an important consideration when creating annotations, and in some cases both are recorded in the same annotation. For example, POSS, POSS-$_{IX}$ and POSS-$_{PU}$ have been used to annotate three separate signs. All are possessives (as indicated by the POSS-part of the annotation) but the form of each sign is different, notably in terms of the handshape, which is indicated by the second part of each annotation. Another example is POSS-EXIST-$_{PU}$, which has been used to indicate a sign that can be a possessive and an existential. In this case, it may not be possible to separate the two functions, and so the annotation shows the form (palm up, -PU) and both functions (POSS- and EXIST-). Furthermore, not all handshapes have been noted, since the research project is not focusing in depth on phonological matters. However, the handshapes of indexical signs, or pointing signs, has been identified as particularly interesting, since these signs have a range of different pronominal functions, as personal pronouns, and markers of possession and existence. Even as personal pronouns, the handshape can indicate sub-categories such as honorifics. Appropriate and distinct glosses

have been created for signs that have a similar English translation; for the most part, the meanings of the signs have been used to create these glosses, rather than handshapes. There are however a few instances where handshapes have been used, to assist the reader in recalling which sign is being referred to.

3.7.4 Identification of sentence boundaries

A range of indicators have been used in order to aid the identification of sentence boundaries:

(3-1) Completive markers, such as FINISH, often appear at the end of sentences;

(3-2) In dialogues, the re-establishing of eye contact with one's interlocutor sometimes appears to function as a boundary marker (similar to Nyst 2007: 42);

(3-3) Use of non-manual features such as shoulder movement in order to indicate role shift while conveying constructed dialogue;

(3-4) Non-manual features (such as a head nod, or a change in the position of the torso) to indicate a new topic;

(3-5) Lowering of the position of manual articulators within the sign space, indicating that the signer has finished signing (more common for dialogues than monologues);

(3-6) In dialogues, 'successful' instances of interrupting, leading to the quick completion of a sentence, or to an abrupt, unresolved finish.

Nyst has noted that sentence boundaries can be hard to detect, especially when using spontaneous texts (Nyst 2007: 42). Sandler concludes that, in ISL, intonational phrase boundaries are indicated by 'across-the-board change in all facial articulations', along with a change in head position, pauses and/or eyeblinks (Sandler 1999:206).

3.7.5 The language of annotation

In terms of choosing a language for annotating the corpus, there were a few options (English, Luganda, Swahili) but the decision was taken to use English, for a number of reasons. English is the first official language of Uganda. For Deaf Ugandans, whose first language is Ugandan Sign Language, the second language is nearly always English, although some also know Luganda and Swahili. Therefore the first 'written language' of most Deaf Ugandans is English. Members of the Deaf community do not usually have a full knowledge of

languages such as Swahili and Luganda, and it would not have been possible to gloss all signs in these languages. Furthermore, using different local languages could have led to inconsistency and confusion. In order to avoid this, one language had to be chosen as the language of annotation, and it was decided that English would be best for this. It should be noted that the need to analyse and explain a signed language (UgSL) using a written language (English) is inevitably problematic, since explanations of the visual-gestural modality in written language are somewhat inadequate. It also takes quite a long time to find adequate ways of translating UgSL into English. Sometimes it proved to be more appropriate to use a word from Luganda or Swahili, especially where signs have a strong cultural conceptual overlap or association with words from this language. Typically, these words, or concepts, are well-known by the Deaf community that uses them. For example, if a UgSL user was shown the sign BADO and asked what it means, they would say *bado* (the Swahili word meaning 'not yet'); they would not say *not yet.* Interestingly, these words from Swahili and Luganda sometimes appear in English language newspapers too.

The sign MUKO is glossed with a Luganda word that is used in the Kampala region of Uganda, and means 'brother-in-law'. But in other parts of Uganda different words – and signs – are used. It makes sense therefore to gloss the Kampala sign as MUKO. The fact that the sign is sometimes articulated with the mouthing <muko> merely reinforces this decision. Such signs typically become well known throughout Uganda, even outside the region where they originated. Where there is no single word in English to represent the sign, two different strategies have been used:

(3-7) As explained above, if there is a word in Luganda or Swahili that is known and used by UgSL users, this word has been used for the gloss. For example, MZEE has been used for the single sign for 'old person'. MUZUNGU means 'white person' or 'English person', as differentiated by the mouthing gestures <mu> and <i> respectively. Extra information has been added so that the corpus can be accessible to other researchers in future if they do not know these words.

(3-8)   As is conventional in the sign language literature, signs that cannot be summarised in a single English word, or by borrowings from other languages, are represented as a series of English words, with hyphens in between. For example GET-SOMEONE is articulated as one discrete sign, as is GO-AWAY.

Just as Swahili and Luganda have been sources for glossing some signs, UgSL has also been used as a source. For example, there are two different pronouns meaning 'self' in UgSL, and the glosses for these are based on the *mouth gestures* that accompany these signs (see the Chapter on pronouns). That is, these are probably *not* mouthings that have been borrowed from spoken languages. Similarly, PA has been used to describe negative existential signs that have a <pa> mouth gesture, which is unrelated to spoken languages in Uganda.

3.7.6 Challenges encountered when annotating the data

When annotating the data, it has been particularly challenging on occasion to know how to gloss a sign in terms of word class, or part of speech.[14] For example, in the dialogue between Mulesa and Makumai, a sign is used that could be translated in English variously as a noun, an adjective or a verb phrase with an adverb:

(3-9a) Is he a hypocrite?

(3-9b) Is he being hypocritical?

(3-9c) Is he acting hypocritically?

Alternatively, given the form of the sign (which involves contact with both cheeks) the word 'two-faced' might be a more accurate translation than any of the above suggestions. It is clear that this issue does not create any misunderstanding between Mulesa and Makumai – the difficulty only emerges on trying to translate the sentence into English.

---

[14] It is difficult to create a clear translation that grammatically and semantically reflects the source language; my thanks to David Gil for his advice on this issue.

The issue becomes even more pertinent in Chapter 8 when trying to categorise negative clauses. In the case of example 3-10 (a-c) the phrase could be translated as any of the following:

(3-10) PRO$_1$ UNDERSTAND NONE1

(a)   I didn't understand

(b)   I understood nothing

(c)   I didn't understand anything

While in translation (3-10a), NONE1 is functioning as a clause negator marker, in (3-10b) and (3-10c) it is behaving more like a negative existential or quantifier. Similar issues emerged in terms of making distinctions between POSS-$_{PU}$ and EXIST, where in some cases it is not possible to determine whether a phrase should be translated as an existential or a possessive (see Chapter 9). In the end, it was decided to create an annotation specifically to reflect this (POSS-EXIST). In reality, it is sometimes very difficult to make categorical decisions about the best way of describing these structures, which arguably points to some of the shortcomings of mainstream linguistic theory as it currently stands. The crucial point to remember is that these issues appear to pose no difficulties for UgSL users; the difficulty emerges when trying to apply linguistic theory to UgSL.

3.8   Structuring the thesis

Although there are grammars for many, though by no means all, spoken languages, this is the first known attempt to create even a broad survey for UgSL. While no comprehensive sign language grammars have been written yet, it is worth noting that typologically informed studies have been published for specific areas of sign language, such as negation, classifiers, possession and existentials (Emmorey 2003; Liddell 2003; Zeshan 2003c; Zeshan 2006; Soneira 2008; Zeshan & Perniss 2008).

It is interesting to consider the question of how different sign languages and spoken languages are, in terms of the subject areas that might be covered in grammars or surveys of each modality. For example, both use prosodic features, such as intonation, to shape meaning (Sandler & Lillo-Martin

2006:253), and it has been argued that sign languages have holds and moves, in the same way that spoken languages have vowels and consonants (ibid: 128).

There are major differences in terms of simultaneity, non-manual marking, and spatiality, however, and any account of a sign language will have to cover relatively novel areas, such as spatial agreement and non-manual features, which spoken languages do not have. While some of these areas have been covered in various books and research projects, a number remain to be explored. The survey of UgSL morphosyntax presented here adopts a similar approach to that used by grammars for spoken languages, looking at areas such as number, pronouns, negation, and the like, while retaining the specific-feature focus of typological studies. However, since there are domains within sign language grammar for which there are no counterparts in spoken language, it will be necessary to add these domains, for example, use of the sign space.

In terms of creating a structure for the survey, the researcher also paid attention to Dixon (2010), who outlines a process that can be followed for creating a language grammar. He argues that linguistic descriptions 'should not reflect the way in which the linguist worked' (Dixon 2010:57). Instead, the grammatical regularities and irregularities should be uncovered; gradually, an overall structure will emerge. In particular, predictions can be confirmed, and inductive generalisations can be established. Links between findings from different domains become apparent, and a suitable overall structure can then be determined, for 'each grammar requires different organisation' (ibid:59).

PART II SURVEY OF UgSL GRAMMAR: PRELIMINARIES

4   SURVEY OF UgSL GRAMMAR: PRELIMINARIES

4.1   Introduction

This survey describes some features of the grammar of Ugandan Sign Language (UgSL) with the purpose of providing an illustrative background for the detailed study of grammatical domains in Chapters 5-9. As UgSL is a largely undocumented language, the design of this survey has drawn on examples from work on undocumented or under-documented spoken languages. For instance, Schultze-Berndt (2000:39), in the sketch preceding her study of two Australian Aboriginal languages, states that the aim of the grammar sketch preceding the main grammatical discussions is that 'it describes those aspects of the grammar of Jaminjung and Ngaliwurru that will be essential for following the general line of argumentation and for understanding the examples in subsequent chapters.' Similarly, the UgSL grammar survey preliminaries in this chapter summarise aspects of UgSL grammar that can serve as useful background to the later chapters. The levels of phonology and discourse are not included, as these do not play any significant role in Chapters 5-9. Instead, an overview is given of morphological and syntactic aspects of UgSL grammar, not only to enable a better understanding of the material presented in Chapters 5-9, but also to put this material in a wider context. For example, the discussion on pluralisation in the chapter on number and quantification makes reference to pluralisation of classifiers, and it is therefore useful to establish some baseline information about classifiers in UgSL in the present grammar sketch, so that the chapter on number and quantification can focus on the specific discussion at hand rather than explain the nature of classifiers in UgSL in general within the same chapter.

Given that there is virtually no previous research on UgSL grammar, this section constitutes a first attempt to delineate some chief domains and aspects of UgSL grammar. These aspects are presented here in the form of a short grammatical sketch (cf. Zeshan 2000a; Liddell 2003:2). The aspects of grammar included here are those that the reader needs familiarity with before accessing the in-depth chapters, including classification of signs (Section 4.2), sign formation processes (Section 4.3), inflection categories (Section 4.4), signing space (Section 4.5), non-manual features (Section 4.6) and sign order

patterns of UgSL (Section 4.7). It is hoped that these preliminaries provide readers with a basic understanding of the context of grammatical structures in UgSL, such that they can navigate the subsequent chapters with relative ease.

4.2 Classification of signs

The classification of signs into classes corresponding to the word classes of spoken languages is one of the most difficult areas in sign language research. In this section, an overview is given of the various approaches and difficulties around this issue, including both formal and semantic distinctions.

4.2.1 Previous approaches to sign classifications

Literature on spoken languages suggests that most languages have three main open word classes: nouns, verbs and adjectives[15] (see Bhat 2000:48-9; Croft 2000:65; Gil 2000:173; Vogel & Comrie 2000). Some sign language linguists have assumed that these classes also apply to sign languages, and criteria of sign class distinctions have been explored. For example, Newport & Supalla (1978) explore the distinction between pairs of verbs and nouns, such as SIT and CHAIR. Similar work was later done for Australian sign language (Johnston & Schembri 2007), where the pattern is less clear-cut. Padden (1988) presents diagnostic tests, as set out in (4-1a-c) below.

(4-1)   a. Nouns can be modified by quantifiers.

        b. Adjectives can be inflected to show intenseness.

        c. Verbs cannot pre-modify other signs.

However, as Schwager & Zeshan (2008:515) note, Padden defines verbs only negatively. More generally, alternative strategies have been used, sometimes implicitly rather than explicitly, including glossing of signs via a spoken language, and classifying the gloss; and looking to see how a sign has been classified in ASL (Schwager & Zeshan 2008:514).

---

[15] Adverbs are not included here because UgSL predominantly uses non-lexical means to modify verbs, such as inflexions and non-manual features, so adverbs are of lesser interest.

Zeshan (2003b) takes a different approach, categorising signs as belonging to either open or closed classes, and then grouping open class signs according to their spatial properties. Below, (4-2 a-c) shows the groupings that Zeshan uses for Indo-Pakistani Sign Language (IPSL).

(4-2)   a. Signs that cannot be modified in space

b. Signs with a changing place of articulation

c. Directional signs

(Zeshan 2003b:160)

Of these three categories, Zeshan notes that:

> It is difficult to argue for a clear noun-verb distinction. Accordingly, all of the words can be both predicates and core arguments. However, certain preferences are associated with the class of directional signs and provide some of the arguments for calling directional signs 'verbs'. On the other hand, there are no comparable arguments to establish a class of nouns.

(Zeshan 2003b:168)

Sutton-Spence & Woll (1999) also state that there are three basic classes of verbs in BSL, depending on what information they carry, shown in (4-3a-c) below:

(4-3)

a. plain verbs – they can be modified to show manner, aspect and class of direct object;

b. agreement verbs – they can be modified to show manner, aspect, person, number, and class of direct object; and

c. spatial verbs – they can be modified to show manner, aspect and location, movement, and related noun.

(Sutton-Spence & Woll 1999:135)

These three verb classes have been posited for most sign languages to date, and agreement verbs have received particular attention in the literature (see Section 4.5.2 below).

75

4.2.1.1 Noun-verb derivations in sign languages

Although it may appear to be easy to think of verbs and nouns in the English language as being distinct, it can actually be harder than it seems. For example, the word class of *file* is flexible: the same form (*file*) can be a noun, as in (4-4a), or a verb, as in (4-4b). In this case of "zero derivation", where there is no formal distinction between noun and verb, it is function that enables a distinction to be made.

(4-4a) Have you seen the red file?

(4-4b) I file the agenda after every meeting.

Similar problems are encountered when trying to make such distinctions in UgSL. For instance, it is common in Uganda to eat *posho* – maize flour cooked with water. One of the UgSL signs for 'posho' (whose equivalent in English would be treated as a noun) resembles the act of *cooking* posho, while the other resembles the act of *eating* posho. In both cases, it is difficult to classify these signs as a noun (referring to the entity of food) or a verb (referring to the action of eating or cooking the food), given their iconic bases. The first research into so-called 'noun-verb derivations' was by Supalla & Newport (1978), who claim that, with very few exceptions, nouns that derive from verbs in ASL have repeated and restrained movement (Baker-Shenk & Cokely 1991:105). In ASL, it is only these movements that mark a difference between SIT and CHAIR, although, as it happens, these signs have distinct forms in UgSL.[16]

Johnston & Schembri (2007:127) note that, for Auslan, 'in many cases, there may be no formational differences between noun and verb signs'. This reinforces the view concerning the difficulties involved in trying to class signs as nouns, verbs or adjectives. Johnston & Schembri (1999:126) note that some signs in Australian Sign Language (Auslan) can be indicated through reduplication, which they define as 'repetition of the movement segment in a

---

[16] Johnston & Schembri (2007:127) similarly note that TEACH and TEACHER in Auslan are morphologically unrelated.

sign'. Noun signs that refer to concrete objects, such as DRAWER, BOOK and BAG, include reduplication, while the related actions (OPEN-DRAWER, CLOSE-BOOK and PICK-UP-BAG) involve a single movement, such as pulling, closing and lifting. Johnston describes some of these forms elsewhere as '"Noun/Verb" Triads' (Johnston 2001:249), for example TURN-ON-TAP (verb: movement clockwise), TURN-OFF-TAP (verb: movement anti-clockwise) and TAP (noun: movement in both directions). Examples of such reduplication in UgSL include SWITCH (ON/OFF) and KEY/LOCK.

The same research suggests that there are other indicators that may distinguish verbs from nouns in some sign languages, such as the use of mouthing. According to Johnston (2001:240) nouns are primarily produced in Auslan with a mouthing that corresponds to an English word (around 70%), while verbs are usually produced without this mouthing (conversely around 13% of the verbs appeared with a mouthing).

Looking at Austrian Sign Language (ÖGS), Hunger (2006:83) found the equivalent figures of 92% for nouns with mouthings, and 52% of verbs with mouthing. A second possible indicator is duration; Hunger found that, on average, the time taken to produce verbs in ÖGS was 2.2 times longer than that taken to produce nouns.

From the data in the corpus, it seems that mouthing is probably not significant in UgSL as an indicator of nominal or verbal status. There appears to be a lot of inter-signer variation in terms of mouthing, and some signers use very few mouthings at all, if any. More research needs to be conducted in order to determine the correlation between the duration of signs and their sign class membership in UgSL, although Hunger's study design seems to require first determining which signs are nouns and verbs, and then analysing these signs for duration, mouthing etc (Hunger 2006:76). Therefore this cannot be a suitable method to distinguish between nouns and verbs *per se*, since it seems that an early decision concerning noun or verb status is already built into the research method.

In conclusion, it is no simple matter to distinguish nouns and verbs; whereas in some cases it may be easier (aided by such formal distinctions as those found between SIT and CHAIR in UgSL), in most cases it is difficult, and

these difficulties are confounded by the potential influence of glossing, where the word class membership of the gloss can influence one's views of the membership of the sign it represents.

4.2.1.2 Adjectival concepts in sign languages

To date, the literature on adjectives in sign languages is rather limited. However, it has been found that in several sign languages, signs classified as adjectives may be placed before or after the noun that they modify. Johnston & Schembri (2007:192-3) state that this is the case for Auslan, and the same has been found previously for ASL (Sandler & Lillo-Martin 2006:341-4) and BSL (cf. Kyle & Woll 1988). Scholars have also noted that many adjectives can be intensified or reinforced through a pause at the commencement of the sign followed by a quick or 'sharp release' (Johnston & Schembri 2007: 154); again, this phenomenon appears in several sign languages, including ASL (Sandler & Lillo-Martin, 2006), BSL (Sutton-Spence & Woll 1999:110-4) and Auslan (Johnston & Schembri 2007).

However, the question of what criteria should be used to define adjectives in sign languages is a difficult one. Sutton-Spence & Woll (1999:110) note that adjectives in BSL do not necessarily occur separately; for example, they may be incorporated into the noun. For spoken languages, too, it has long been recognised that not every language has a distinct class of adjectives (Rijkhoff 2000:217; Dixon 2010). Wierzbicka (2000) also identifies several problems with earlier definitions of what an adjective is. Provisionally, 'adjectival concepts' are regarded here as synonymous with semantic types of adjectives, of which Dixon (2010:73) has noted seven: dimension, age, value, colour, physical property, human propensity, and speed. Examples of signs in UgSL that correspond to these types are given in Table 4.1.

Adjectival concepts	Adjective signs
Dimension	LONG, TALL, SHORT
Age	OLD, NEW, YOUNG
Value	EXPENSIVE, CHEAP, GOOD, BAD
Colour	RED, BLUE, WHITE
Physical property	HEAVY, HOT, SICK, TIRED

Human propensity	JEALOUS, ASHAMED, HAPPY
Speed	SLOW, FAST

Table 4.1: Examples of adjectival concepts in UgSL

UgSL has both manual and non-manual ways of indicating degree with adjectival concepts, which results in either intensification or attenuation. UgSL has a manual intensifier sign glossed here as NYO ('very'). It consists of a fist shaken twice (NYO-_{REDUP}), and is accompanied by the mouth gesture 'oo', which may be borrowed from the Luganda word *nnyo* 'very' (see Figure 6.2 of Lule & Wallin 2010:119). Example sentences containing NYO-_{REDUP} are as follows:

(4-5)   CAKE EAT SWEET **NYO-_{REDUP}**

'The cake is very sweet.'

(4-6)   PRO₃ WOMAN BEAUTIFUL **NYO-_{REDUP}**

'That woman is very beautiful.'

(4-7)   SHOOT-KICK-BALL GOAL **NYO-_{REDUP}**

'That goal was very unexpected.'

(4-8)   RALLY 1-_{CL-PASS-BY} **NYO-_{REDUP}**

'The rally car is very fast.'

Dryer (2005c:370) discusses the use of degree words to modify adjectives in some spoken languages, and points out that many languages also have forms meaning 'not very' (ibid). In UgSL, the antonym of NYO is TONO2 'a little' or 'not really', a manual sign articulated by 'snapping' the index finger and thumb, while pursing the lips or protruding the tongue slightly, and squinting (see Chapter 5 on number and quantification, where TONO2 is discussed and depicted). This gloss relates to a morpheme within the Luganda words *butono* 'a little' and *batono* 'few', and Deaf people in Kampala who know Luganda tend to use <tono> as a mouthing with this manual sign. The non-manual features that can occur with TONO2 are glossed as <tp> (protruding tongue) and <o> (pursed lips).

```
_____sq
                    ____<tp>
```
(4-9)   CAKE EAT SWEET **TONO2**

'The cake I ate wasn't very sweet.'

                          _____**<o>**

(4-10) UK TREE GREEN **TONO2**

      'In the UK, the trees are not really that green.'

A variety of non-manual features may be used in UgSL to emphasise or qualify/soften adjectival concepts. For affirmation, a head nod may accompany an adjectival sign, as in the sentence below:

                         ___**hn**

(4-11a)   MUZUNGU FOOD HOT

      'White people's food is indeed hot.'

To qualify or soften an adjectival concept, head tilts are often used, e.g. the head may oscillate from side to side to indicate 'sometimes' or 'somewhat'. This qualifier feature may be used for pragmatic reasons, such as to make an utterance more polite. For example, the signer of the sentence below may believe white people's food is never hot, but use the qualifying head tilt (ht-r-l-r) to avoid giving offence.

                         __**ht-r-l-r**

(4-11b)   MUZUNGU FOOD HOT

      'White people's food is sometimes hot.'

Adjectival concepts may be intensified through the use of either squinted eyes (as in examples 4-12 -14) or raised eyebrows (as in example 4-15). Some, such as COLD and SUNNY below, also require a particular mouth gesture in their intensified form (as indicated by <o> in 4-13 and <i> in 4-14).

                    _____**sq**

(4-12) AFRICA FOOD HOT

    'African food is incredibly hot.'

                    _____**sq**

                    ___**<o>**

(4-13) EUROPE COLD

    'Europe is very cold.'

                    _____**sq**

80

     <ins> </ins><i>

(4-14) AFRICA SUNNY

  'Africa is very sunny.'

         <ins>   </ins>**br**

(4-15) ENGLAND SNOW BEAUTIFUL

  'In England, the snow is very beautiful.'

To indicate the superlative specifically, increased size of signs on the horizontal plane and/or the vertical axis is sometimes used in addition to these non-manual features. Interestingly, in (4-16), raised eyebrows and widened eyes (glossed as 'br') indicate the superlative ('yellowest'), but in (4-17) a very narrow eye squint (glossed as 'sq-vn') indicates the superlative ('easiest').

      <ins>   </ins>**sq-n** <ins>   </ins>**sq**<ins>   </ins>**br**

(4-16) BANANA MASS-$_{CL\text{-}BUNCH+x+y+z}$ YELLOW$_{+x}$ YELLOW$_{+y}$ YELLOW$_{+z}$

  'Of these three bunches of bananas, one is slightly yellow, that one is more yellow, and that one is the yellowest.'

       <ins> </ins>**sq-n**<ins> </ins>**sq**<ins> </ins>**sq-vn**

(4-17) SCIENCE$_{+x}$ MATHS$_{+y}$ GEOGRAPHY$_{+z}$ EASY$_{+x}$ EASY$_{+y}$ EASY-$_{REDUP+z}$

  'Science is quite easy, maths is sort of easy, and geography is by far the easiest.'

Table 4.2 is a preliminary attempt, based on intuition and a brief review of the data, to group adjectival concepts according to whether their superlative form requires a brow raise or squinted eyes in UgSL. The lists are not exhaustive, but give some idea of the semantics of each of these non-manual features. More research is needed to confirm which adjectival concepts belong in which group, and the precise degrees of non-manual features that are involved in each.

Adjectival concepts whose superlative form requires a brow raise	Adjectival concepts whose superlative form requires squinted eyes
YELLOW	BLACK
GREEN	RED

BLUE	BROWN
ORANGE	ORANGE
BEAUTIFUL	EASY
BIG	HARD
FAT	SMALL
TALL	THIN
LONG	SHORT (height)
SMART	SHORT (length)
NICE	DHAIFU
GOOD	BAD
RICH	POOR
RIGHT	WRONG
CLEVER	SIMPLE

Table 4.2: A tentative grouping of adjectival concepts according to the non-manual features required for their superlative form.

Another manual modification of adjectival concepts is a composite adjectival structure that is formed with the affix ^ish ('light or unclear'), and requires a tongue protrusion for the duration of both the adjectival concept and the affix. This affix often appears with colour signs to modify them, as in RED^ish 'pink' (see Figure 4.1) and BLACK^ish 'grey'. The affix ^ish must be bound to a preceding sign and cannot occur on its own.
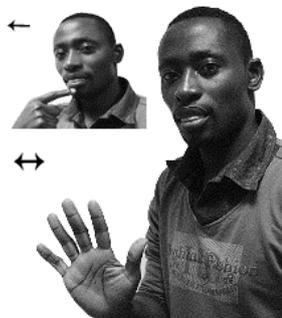
Figure 4.1: The sign RED^ish

Cross-linguistically, the realisations of adjectival concepts have different grammatical properties, and can be broadly categorised as similar to verbs,

similar to nouns, similar to both nouns and verbs, and similar to neither (Dixon 2010:62-64). The intensification and attenuation mechanisms described here may be one, though currently insufficient, argument for a distinct sign class of adjectives in UgSL. However, further research would be needed to substantiate this.

As noted before, adjectival concepts may be modified by intensification, and this is the case in UgSL (see Section 4.6 on non-manual intensification of adjectives).

4.2.1.3 Alternative approaches

The result of the difficulties in identifying classes of sign is that sign language linguists have long been dissatisfied with taking criteria and classifications from the study of spoken languages and applying them to sign language analysis. Slobin (2008: 117) suggests that, in fact, it may be inappropriate to adopt the spoken language classifications, which has thus resulted in 'forcing ASL and other signed languages into the moulds that were made for the description of spoken languages – generally English'. This leads, Slobin continues, to linguists taking spoken language theory and using it to search for sign language data but the inherent differences between spoken and signed languages may make this an impossible task. Slobin's classification of many spoken languages as "dependent-marked" and many signed languages as "head-marked" helps to illustrate this point:

> …think of the verb in an utterance as the *head* and the associated nouns or pronoun arguments as *dependents*. In the sentence "he sees me", then, the head is "see", and the dependents are "he" and "me".
>
> (Slobin 2008: 125)

Slobin notes that English is a dependent-marked language, because 'the forms of the dependents, rather than the form of the head, tells you who did what to whom' (ibid.) and compares this to head-marked languages like ASL, where 'markers on the verb itself indicate the role of the associated noun arguments' (ibid.: 126).

The distinction between heads and arguments, rather than the traditional word classes, constitutes an alternative perspective on the classification of

signs. In response to this dissatisfaction with grammatical theories to distinguish sign classes, and the benefit of analysing sign languages from a head-marked perspective, the notion of 'predication' may also prove relevant. Gil (2012: 1,001) provides a description of predication as 'a composite emergent entity derived from the coming together of two independent elements of conceptual structure: thematic role assignment and headedness', and Gil applies this to both signed and spoken languages. Table 4.3, adapted from one section of Meir's (2012) proposed classification systems, shows both syntactic and semantic aspects of sign classes, which make reference to syntactic slots – predicate, argument and modifier – as well as semantic types – entity, event and property (in the case of sign languages, the term 'word class' is changed to 'sign class' to reflect the modality).

		Nouns	**Verbs**	**Adjectives**
semantic	Concept class	Entity	Event	Property
syntactic	Syntactic Position	Argument Predicate	Predicate	Modifier Predicate
	Syntactic co-occurrences	Quantifiers Specific negators Determiners	Specific negators Pronominal object clitic	

Table 4.3: Semantic and syntactic distinctions in sign languages (adapted from Meir 2012:96)

An interesting recent approach that attempts a unified analysis of both spoken and signed languages is Kiingi's (2013a) new classification of language signs, which consists of a predicate and argument framework, sub-divided by semantically defined classes. Kiingi (2013b) suggests that:

> If uncritical application of spoken language labels is to be discontinued, adoption of predicate grammar or grammar without spoken language word class labels promises to be good relief in that predicate grammar ensures a level playing field for both spoken and sign language linguists. To eliminate spoken language word classes, we start by discarding nouns (together with pronouns) and verbs in favour of arguments and predicates respectively.

The basic predicate-argument division is sub-divided into semantically defined sub-classes as seen in Figure 4.2.
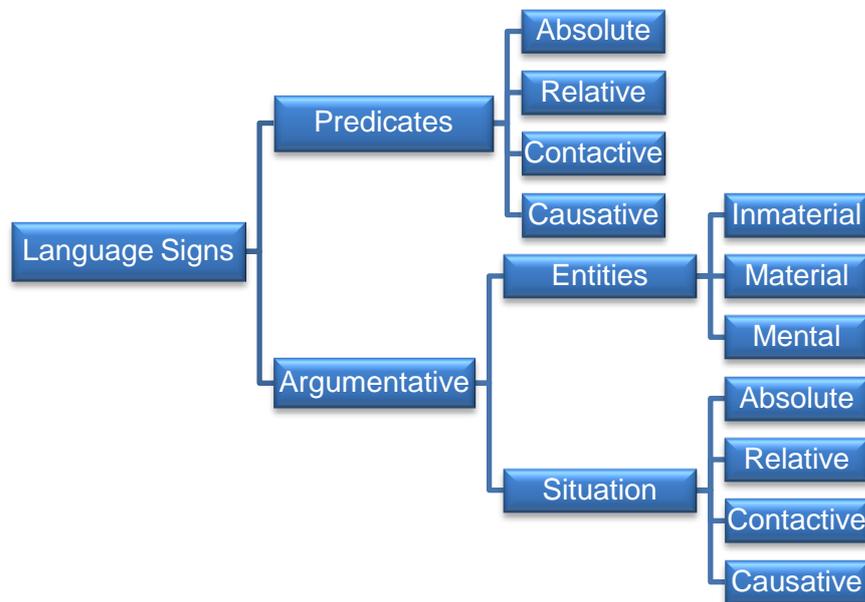
Figure 4.2: Modality-independent classification of language signs.

The hypothesis is that 'in a sign language, a definite proportion of the visual-gestural signs highly correlates with predicate classes' (ibid.). Semantic sub-classes are valid across both modalities. For instance, absolute predicates, otherwise known as 'intransitive', e.g. SLEEP, and contactive predicates involve spatial notions of a contactor or something being contacted (e.g. TABLE BOOK BOOK-ON 'The book is on the table').

Entity arguments involve material entities, such as abiotic matter, plants, animals, and humans, and mental entities include concepts such as perception, emotion and cognition.

It should be noted that this is an untested approach so far, but is of interest here as it is proposed specifically in relation to UgSL.

In this section, several approaches to the classification of signs into word/sign classes have been presented, and it has become clear that allocating signs to word classes is a very difficult undertaking, in particular for sign languages that are being documented for the first time. It is quite possible that some of the more recent approaches that deviate from the traditional noun-

verb-adjective word classes will turn out to be more adequate for accounting for sign class distinctions in UgSL. However, in Part III of this thesis, an approach such as primarily relying on a predicate-argument distinction has not been pursued because the sign language literature in general does not allow backing up of such an analysis with reference to other work. Instead, the chapters in Part III do use traditional labels (e.g. 'nominal, verbal and adjectival' signs[17] in Chapter 5; 'SVO or SOV order' in Chapter 7), where these are seen as useful in characterising the structures of UgSL, that is where they add explanatory value or enable a more structured discussion. However, the considerations presented here should serve as a general caveat in that truly adequate terms for describing UgSL grammar may not be available yet, and, certainly, the classifications from other signed and spoken languages should not be assumed a priori and uncritically for UgSL. Unless otherwise indicated, the chapters in Part III use the semantically-based notions of nominal, verbal and adjectival signs, with the exception of directional verbs, which are clearly verbs due to their morphosyntactic properties (see Section 4.5.2). Moreover, traditional labels are used for the closed sign classes that appear in Part III, that is, classifiers, pronouns, numerals, quantifiers, and particles.

4.3 Sign formation processes

4.3.1 Sequential compounding

The existence of compounds has been reported in many sign languages (see Klima & Bellugi 1979 for ASL, Wallin 1983 for Swedish Sign Language, Sutton-Spence & Woll 1999 for BSL, Johnston & Schembri 2007 for Auslan). Compounds are combinations of two or more free morphemes to form new signs (Johnston & Schembri 2007:130). Examples in English include words such as *cupboard* and *blueprint* (Baker-Shenk & Cokely 1991:41).

In BSL, examples of compounds include MAN+WOMAN 'people', and SEE+MAYBE 'check' (Sutton-Spence & Woll 1999:102) while Auslan includes

---

[17] That is, relying on the semantic concept classes in the first instance.

MOTHER+FATHER 'parents' and TASTE+GOOD 'delicious' (Johnston & Schembri 2007:130). Ugandan Sign Language has many compounds. Some of those listed here have been identified in the UgSL corpus. Other examples come from the UgSL Dictionary (Wallin et al. 2006).

Compounds, then, can be identified on the basis of formal properties that seem to operate in a similar way across different sign languages and involve modifications to the individual signs that make up the compound. This may include formational characteristics such as shortening of the duration of the signs, loss of internal or repeated movement, a hold of the non-dominant hand being carried over from one sign to the other, and spread of non-manual aspects, e.g. mouthing, over both components, as well as semantic characteristics, such as semantic changes that may make it impossible to derive the meaning of the compound straighforwardly from the meaning of the component signs (cf. Liddell & Johnson 1986, Zeshan 2000a).

The domain of kinship terms is a particularly productive one for UgSL in terms of compounding. These compounds have emerged to refer to close family members only and are not used to describe more distant family members, such as uncles, aunts, nephews, nieces or cousins. Kinship compounds include MAN+BORN 'father', WOMAN+BORN 'mother', BOY+BORN 'son' and GIRL+BORN 'daughter'. The handshapes for BOY and GIRL in the latter two signs come from the letters FS:B and FS:G in the BSL manual alphabet. Some kinship compounds are trimorphemic, such as MAN+BORN+OLD 'grandfather' and WOMAN+BORN+OLD 'grandmother' (see Figure 4.3). Interestingly, the sign OLD appears to have changed location in time. It used to be articulated from a starting location under and making contact with the chin, but in time, the sign has moved away from the chin and is now articulated in the neutral signing space.

Figure 4.3: The signs MAN+BORN+OLD and WOMAN+BORN+OLD

UgSL compounds can also have a more metaphorical meaning. TONGUE+CARD can mean 'caught red-handed', 'sack' or 'guilty'. The sign CARD, which forms one of the morphemes in this compound, comes from the sign for 'red card' or 'yellow card' in football. Another compound is used for 'liar', which derives from TASTE+HANDS. This is used to refer to someone who does not give a straight or honest answer to a question. Contrastingly, SAY+LIGHT, meaning 'true', or 'clear', refers to someone who gives a straight answer, or who tells the truth. Other examples of compounds that involve a semantic change relative to the component signs include:

(4-18) THINK+TRUE 'believe'

(4-19) THINK+HARD3 'impossible or difficult-to-understand'

(4-20) LOVE+MORE 'interest or desire'

Other types of compounds in UgSL include nominal signs such as for meals (4-21-22), types of buildings (4-23-24), and adjectival concepts (4-25-27).

(4-21) TEA+MORNING 'breakfast'

(4-22) EAT+EVENING 'supper'

(4-23) HOUSE+PARTY 'hotel'

(4-24) SLEEP1+STAY 'dormitory'

(4-25) THINK+MULTIPLE+TWO 'hypocrite'

(4-26) FACE+SMART 'handsome' – only used with reference to men.

(4-27) FACE+DHAIFU[18] 'ugly'

4.3.2 Simultaneous compounding

In addition to sequential compounds UgSL also has simultaneous compounds. This includes numeral incorporation, the simultaneous expression of a numeral and a unit. Chapter 5 provides detailed exemplification of this processs. Interestingly, there are several calendar signs in UgSL that exist in two variants, one incorporating numbers and one where this is not possible (see Table 4.4).

---

[18] *Dhaifu* is a Swahili word, meaning 'bad' (see Chapter 8 for more information about this sign).

4.4.1a	MONTH1	4.4.1b	MONTH2
4.4.2a	WEEK1	4.4.2b	WEEK2
4.4.3a	DAY1	4.4.3b	DAY2
4.4.4a	NIGHT	4.4.4b	-
4.4.5a	YEAR-FUT	4.4.5b	YEAR-THREE-FUT or YEAR-THREE-PAST
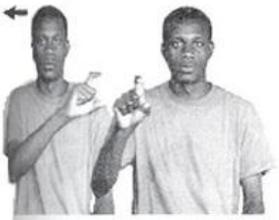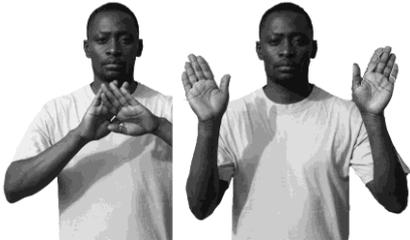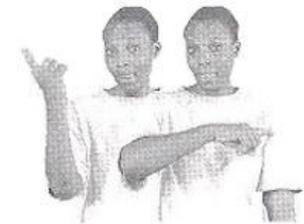
	YEAR-PAST		

Table 4.4: Signs without and with numeral incorporation in UgSL

(The signs MONTH1, WEEK1, WEEK2, DAY2, and YEAR-PAST are UgSLD picture signs 1957, 939, 1792, 228, 282 and 1605, Wallin et al. 2006.)

The sign YEAR may be inflected for both number and reference time (see examples 4-28 -30). Note that the signs YEAR (tense-neutral) and YEAR-FUT are similar in form. Reference to years in the past (4-28 -29) and years in the future (4-30) can be made by changing the direction in which the two hands pass each other.

(4-28) THINK **YEAR#TWO-PAST** START **YEAR#THREE-PAST**

'I think it started two or three years ago.'   (Uga_mulesa.eaf00:06:44-7)

(4-29) SN:NGORA FS:NGORA AGO **YEAR-PAST**

'Years ago, I studied at the Deaf school in Ngora.'

(Uga_mulesa.eaf00:00:30-6)

(4-30) DEM-$_{IX+d}$ **YEAR-FUT** FIRST DEAF DEGREE

'This year, for the first time, a deaf person achieved a (university) degree.'

(Uga_lule_akomele2.eaf00:07:42-5)

In addition, numbers between 1 and 9 can be incorporated into the signs MONTH2 and WEEK2. DAY2 can incorporate numerals from 1 to 5, and occasionally 6 to 9, although this is not as common. Numbers from 1 to 9 may also be incorporated into the sign HOUR.

4.3.3 Other complex signs

As mentioned before, kinship terms constitute a particularly productive domain for compounding in UgSL. In addition to the kinship signs discussed in Section 4.3.1, UgSL can indicate 'sister', 'brother' and 'relative' through the complex signs GIRL+SHOULDER, BOY+SHOULDER and FAMILY+SHOULDER. This derivation uses a bound morpheme represented by the gloss SHOULDER to refer to a relative or a family member. However, unlike the compounds in Section 4.3.1, the sign glossed SHOULDER cannot exist on its own and is only used in combination with the initial sign. Thus the complex sign could either be considered sequential derivational morphology or, SHOULDER could be

regarded as a cranberry morpheme. For the purpose of the present section, we only note the existence of these signs and further research is needed in order to clarify the status of these sign combinations.

4.4 Inflectional categories

This section summarises inflectional categories present in UgSL, and also mentions some alternative means of expressing these categories where relevant. UgSL does not express gender or case at the level of inflectional categories. Case marking on nominal signs is extremely rare across sign languages (one example is a case-marked pronoun in Israeli Sign Language, see Meir 2003). Case marking is absent in UgSL. Some sign languages, in particular the Taiwanese Sign Language (TSL) family, use a gender-marking system (cf. Smith 1990), but UgSL does not have any grammatical marking of gender.

With respect to typically verbal inflections that can be found in many spoken languages, it is noted that UgSL lacks grammatical inflections expressing voice (such as passive). Negation is mainly expressed through negative particles, and morphological negation on predicates is marginal in UgSL. Chapter 8 gives a detailed account of negation in UgSL.

4.4.1 Number

Number as a grammatical inflectional category prototypically refers to morphological means of showing singular, dual, plural, and sometimes other non-singular categories. UgSL has a number of ways to indicate plurality, some of which are inflectional in nature. A full account of these is given in Chapter 5 on number and quantification.

4.4.2 Person

Like other sign languages, UgSL can mark person distinctions on directional verbs, showing the subject or source of an action and the object or goal of an action through the direction of movement and/or hand orientation. This is a spatial mechanism, and is described in sub-section 4.5.1.1 as part of the section on the signing space.

4.4.3 Tense

In UgSL, the reference time of an utterance is usually expressed via separate time lexemes at the discourse level. Some verbal predicates can also inflect spatially along a timeline, as seen in Section 4.5.5. However, this is seen to occur with reduplication, where several events are shown to follow or precede each other. At present, there is not enough evidence from the data to decide whether placing verbal predicates on a timeline indicates sequentiality only or could also be considered a type of tense marking in some cases.

4.4.4 Aspect

UgSL has a well-developed system of aspect, which includes both manual and non-manual forms. Aspect refers to the way in which situations – be they states or events – may be presented (Booij 2007:135), and they refer to 'different ways of viewing the internal temporal constituency of a situation' (Comrie 1976:3). The term is used as a semantic notion, but also refers to the grammatical expression of this semantic notion (Booij 2007:135).

In other words, there is some debate as to whether or not 'aspect' should refer only to phenomena that are manifested as grammatical distinctions (Dahl & Velupillai 2005:266). According to Comrie, aspect is '*grammaticalisation* of expression of internal temporal constituency' (1985:6). Aspect can be an inherent property of the verb – for example, the verb 'to die' is inherently telic – and this is sometimes referred to as 'lexical aspect', or Aktionsart (Booij 2007:135). The lack of consistent terminology on aspect is an additional confusing factor when discussing aspect (ibid. 2005:266). Here, aspect will be considered to be a semantic notion that may or may not be grammaticalised. Definitions of different aspects will be provided in the relevant sub-sections of Section 4.4.4.2 below for completive/incompletive aspect, inceptive aspect, and so forth.

In their overview of aspect in BSL, Sutton-Spence & Woll (1999) identify at least three ways in which aspect may be expressed: as inflections; as separate aspect markers; and as part of simultaneous constructions. In this section, the inflectional expressions of aspect in UgSL are discussed, some of which overlap with spatial patterns (see Section 4.5 for an account of the

signing space in UgSL). Moreover, some expressions of aspect are non-manual, and these are discussed in Section 4.6 as part of the section on non-manuals in UgSL.

Verbal inflection for aspect involves 'altering the movement shape and/or the rhythmic pattern' of the sign (Sandler & Lillo-Martin 2006:47). Klima & Bellugi (1979) suggest a large number of aspectual inflections for ASL, including protractive, incessant, durational, habitual, predispositional, susceptive and frequentative. In essence, information about the internal temporal consistency of the verb is given by changing the way the verb is articulated: for example, by holding the sign LOOK for a longer period than normal, its meaning changes to become LOOK-FOR-A-LONG-TIME (Sutton-Spence & Woll 1999:118).

A range of different aspect markers and aspectual inflections can be identified for UgSL, which seems to have a rich aspectual system. The aspects shown include completion, negative completion, prospectiveness, habituality, iterativity and continuousness. In common with many other sign languages, such as Auslan, UgSL often uses reduplication to express habituality and iterativity. This section focuses on manual expressions of aspectual inflections, but these are often combined with non-manual expressions, which can also function as aspectual markers.

4.4.4.1   Prospective aspect

The prospective aspect indicates that 'a state is related to some subsequent situation, for instance where someone is in a state of being about to do something' (Comrie 1976:64). The mouth gesture <mam> appears to be a prospective aspectual marker in UgSL, indicating what is about to happen.

<u>   </u>**<mam>**
(4-31) SN:SAM COME-_{REDUP}

   'Sam is about to come.'

      <u>   </u>**<mam>**
(4-32) l: PRO₃

   r: WOMAN COME-_{REDUP}

   'The woman is going to come.'

_____<mam>
(4-33) PRO$_1$ CALL$_{3\text{-REDUP}}$

        'Shall I tell them that we are about to start?'

                                            (Ug_amuge_amongi.eaf00:02:57-8)

                    _____<mam>
(4-34) (PRO$_1$) TELL3-$_{REDUP}$

        'I am about to tell you…'   (Uga_lule_akomele1.eaf00:11:43-4)

4.4.4.2   Aspect associated with punctual verbs (habitual, iterative)

Johnston and Schembri (2007:152) note that dynamic verbs may be classified as 'punctual' or 'durative'. Punctual verbs are those that are 'usually brief or instantaneous', while durative verbs 'usually require time to unfold' (ibid: 2007:152). An example of a punctual verb in UgSL is COUGH, while an example of a durative verb in UgSL is WAIT. This distinction is significant for the present discussion of aspect, because different kinds of aspect are associated with each type. However, it is important to note that some verbs can change categories through inflection. For example, verbs such as WORK and WELD can be punctual or durative (see the examples below). Sub-section 4.4.4.2 examines aspect associated with punctual verbs, while 4.4.4.3 considers aspect associated with durative verbs.

        Aspectual meaning is produced by inflecting verbs through reduplication, although it is important to note that, in UgSL, reduplication can have other functions too (cf. Section 5.1.7 on pluralisation). For Auslan, Johnston and Schembri argue that the rapidity of reduplication is important in distinguishing between habitual and iterative aspect (for punctual verbs) and durational and continuative aspect (for durative verbs). They suggest that rapid reduplication indicates habitual and durational aspect, while slower reduplication indicates iterative and continuative aspect (Johnston & Schembri 2007:152) In UgSL, however, it is not so easy to make aspectual distinctions on the basis of speed of reduplication, and context seems to play a greater role.

                                            94

In the examples below, the inflected forms are glossed VERB-REDUP in all cases, and this includes both iterative and habitual aspect.

Habitual aspect 'describe[s] a situation which is characteristic of an extended period of time' (Comrie 1976:29), sometimes equivalent to English *used to*, as in (4-35).

             _____\<fi\>

(4-35) BANNER LOOK+u **SEEN-REDUP**

 'I used to read the banners.'

In example (4-36), the sign CARE is reduplicated to indicate the habitual aspect. Here, the signer is saying that the care given by her interlocutor's mother is enduring, rather than fleeting.

(4-36) MOTHER POSS2-IX **CARE-REDUP** PRO2

 'Your mother always cares for you.'   (Uga_KCb.eaf00:08:39-42)

Reduplication may also show iterativity, as in (4-37). Comrie (1976:27) defines iterativity as 'the repetition of a situation, the successive occurrence of several instances of the given situation'.

(4-37) r: 2h:WALL   **A-CL-HANDLING-HAMMER-REDUP**

 l: DH:S-CL-PLUG-WALL-HOLD---

 'Hit a plug on the wall with a hammer several times.'

Mouth gestures can have a key role in expressing the habitual aspect. For example, if the sign and puffed cheeks (\<puff\>) are reduplicated in quick succession, the habitual aspect may be implied. In (4-38) below, this phenomenon gives the meaning 'I was here regularly, over a period of time'.

   _____**\<puff\>**

(4-38) r: PRO1 NINE-TWO:1992

 l: EXIST-REDUP

 'Yes, I was here regularly/every day during 1992.'

              (Uga_ssebenkita_topher.eaf00:17:52-3)

4.4.4.3   Aspect associated with durative verbs (continuative)

Non-manuals are particularly important for showing continuative aspect. This account will follow the definition for continuative aspect given by Johnston &

Schembri (2007:153): '[continuative aspect is] usually understood as meaning the action endured or continued for a very long time'. In (4-39), the sign WORK can be inflected through both reduplication and the addition of puffed cheeks (<puff>) to show that Hasan is working for a long period of time.

_____**<puff>**

(4-39) OFFICE DEM-IX+z SN:HASAN WORK1-REDUP

'Hasan worked the whole day at the office.'

In (4-40) the sign DEM-EXIST-REDUP, with a single long <puff>, indicates the continuative aspect (i.e. the existence or presence of something over a long period of time), as in (4-40).

_____**<puff>**

(4-40) WORK1 **DEM-EXIST-REDUP**

'I am working here for the whole day.'

The non-manual <i> also marks continuative aspect, and is incorporated into the verb, since it is articulated simultaneously. Sutton-Spence and Woll note:

> In some cases, there may appear to be an overlap between adverbs of manner and aspect, if there is an element of time in the way something was done. For example we might have adverbs of manner like *slowly, quickly*, or *gradually,* although this is usually considered a part of aspect, because they contain some element of meaning of timing.
>
> (Sutton-Spence & Woll 1999:124)

In this sense, it can be said that <i> indicates that the manner of an action that involves effort or exertion, as in (4-41a).

_____**<i>**

(4-41a)   PRO3 MAN BICYCLE-REDUP

'He's huffing and puffing up the hill on a bicycle.'

Conversely, the non-manual <u> also marks continuative aspect, but shows that the manner of an action involves little, if any, effort, as in example (4-41b).

_____**<u>**

(4-41b)   PRO3 MAN BICYCLE-REDUP

'He's cycling smoothly along flat ground.'

Several other mouth gestures are associated with the continuative aspect. The mouth gesture <bla> is another one that can indicate continuative aspect (see 4-42 and 4-43). It is not grammatical to form this sign with only one expression of the mouth gesture <bla>. Rather, the mouth gesture must be repeated more than once (<bla-bla-bla-bla>).

        _____**sq** _____**<bla>++**

(4-42) PRO₂ SICK1 FEVER SICK2-REDUP

     'He was suffering from fever for a long time.'

                             (Uga_ssebenkita_topher.eaf00:06:19-23)

        _____**<bla>**

(4-43) TALK-REDUP

     'Talk for a long time.'

In order to show that a meeting is taking place for a long time, the mouth gesture (<awo>) is added to the sign PALM-STAY1 which ordinarily means 'stay' – creating a new marker that indicates the continuative aspect.

Other mouth gestures observed in the data corpus include <awo>, which refers to something that is happening for an *unexpectedly or surprisingly long time*. Further research is needed on the exact distribution and function of these mouth gestures, as UgSL has a particularly rich array of these types of non-manual features (see also Section 4.6).

4.4.5 Degree

The expression of degree is not an inflectional process in UgSL. Rather, it is either expressed lexically, or non-manual marking is used (see the discussion in Section 4.6).

4.5 Signing space

4.5.1 Spatial modification of signs in UgSL

It has been noted for other sign languages that not all signs are able to move around the sign space (Johnston & Schembri 2007:138). For example, in

Auslan, the signs HOUSE and CHILD are free to move around, but WOMAN and APPLE (which are articulated in a fixed location on or near to the signer's body, and are therefore body-anchored signs) are unable to do this.[19] This is true also for UgSL; for example, the sign TREE1 (see Figure 4.4) is always located in the middle of the sign space: it is ungrammatical to articulate this sign in another part of the sign space.
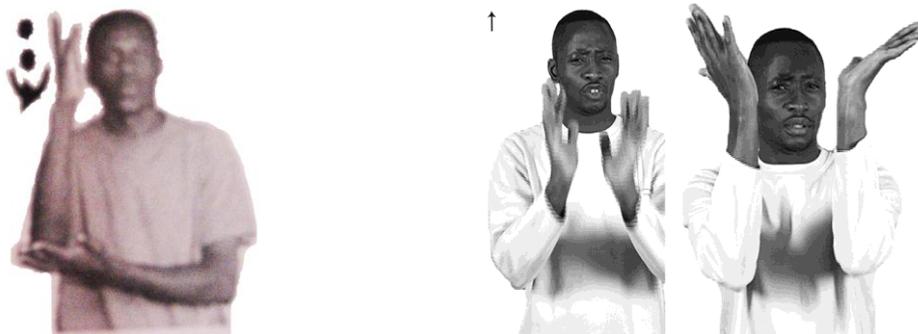
Figure 4.4: The signs TREE1 and TREE2

(UgSLD picture sign: 880, Wallin et al. 2006)

Where signs *are* able to move around the sign space, they may be modified for the purpose of indicating location and/or plurality (see Chapter 5 on pluralisation in UgSL). A grammatically relevant spatial location is called a 'locus' – plural 'loci' (Liddell 1990).

4.5.1.1 Spatial modification for location

Zeshan (2003b:160) notes that the spatial modification of signs and spatial arrangement of referents plays a very important role in IPSL, where referents may be localised in the sign space. Elaborate spatial descriptions are 'easily realised' in IPSL, and especially frequent in narrative texts (ibid). As with IPSL, some signs in UgSL have a changing place of articulation. Signs in this class are usually located in a 'default' location, but may be shifted in the sign space. These signs can be articulated at different loci in the sign space, where they

---

[19] In this thesis, the term 'body-anchored' refers to a phonological property of those signs that have a place of articulation on or near the body and thus cannot be spatially modified.

may agree spatially with other signs, but they are not able to move between two points in space, at least not with the same meaning.[20]

In (4-44), the location of a house can be shown by articulating the sign HOUSE in the left part of the sign space, showing the location of the house relative to the signer.

(4-44) HOUSE$_{/x}$

'The house is to the left.'

In example (4-45), the sign HINDER is articulated in two different loci in the sign space to refer to two separate blocks on the road, while (4-46) shows the use of three separate loci (x, y and z) or distributive ($_{DISTR}$) to locate branches of UNAD in the sign space.

(4-45) HINDER$_{/x/z}$

'There were two blocks (on the road).'

(4-46) MOBILISATION **BRANCH-$_{DISTR}$** ASSOCIATION

'UNAD (the Uganda National Association of the Deaf) has mobilised three of its branches.'   (Uga_diriisa.eaf00:03:44-6)

Note that these are clearly separate repetitions of the whole sign, unlike the inflectional reduplicated forms discussed in Chapter 5, Section 5.4.

In UgSL, as in many other sign languages, referents do not have to be present. Signers can also establish non-present referents, such as people, things and places, by locating them in specific loci in the signing space. Baker-Shenk & Cokely (1991:223) call this the Reality Principle, whereby 'if the Signer is recalling an event in the past in which persons or things were actually arranged in specific places, the Signer will set them up in the same arrangement'.

Interestingly, the concept of moving house is expressed in UgSL by spatially inflecting the sign HOUSE – it moves from one part of the sign space

---

[20] Though see (4-44) for an example from UgSL where a sign (HOUSE) *can* move between two points in space, in certain contexts.

to another (4-47). This does not mean that the house actually moves; rather, it is used in a more abstract way to refer to moving house.

(4-47) **HOUSE$_{+x-z}$**

'Move house (from x to z)'

However, to show moving schools, a separate verb is used – MOVE, as in (4-48). The sign SCHOOL is not inflected.

(4-48) (SCHOOL) **MOVE$_{+uz-d}$** NTINDA

'I moved (from a school in Ngora) to Ntinda school (in Kampala).'

(Uga_mulesa.eaf00:01:33-5)

4.5.1.2 Spatial modification for plurality

Spatial distribution, that is, reduplication of a sign at several locations in sign space, is one of the morphological processes used to indicate plurality. Distribution in UgSL is very productive and can apply to a wide range of sign classes (see Section 5.1 in the chapter on number and quantification for a detailed account).

4.5.1.3 Using space to express logical contrasts

The signing space in UgSL can be used to express logical contrasts, by way of localising referents on opposite sides of the signing space. This strategy can also be used in the expression of comparatives. Comparatives express a higher or lower degree than a positive adjectival concept (Shoup & Loberger 2009:98), for example, 'better' and 'quieter', while superlatives express the highest or lowest degree (ibid:98), such as 'best' and 'quietest'.

In UgSL, comparatives can be expressed spatially, by placing adjectival concepts in the sign space – glossed as 'x' and 'z' in (4-49) – especially where two or more items are being compared, and this may co-occur with a body shift to either side.

(4-49) ROOM BIG$_{+x}$/SMALL$_{+z}$

'One room is bigger than the other.' // 'One room is big, and one is small.'

Spatial placement can signify both comparatives and superlatives, as in example (4-49) in Section 4.5.1.3, where the biggest object is placed to the left

and the smaller ones to the middle and right. Degree is also expressed non-manually in UgSL, as detailed in the section on non-manuals.

4.5.2 Directionality

4.5.2.1 Directional signs

Directional signs are characterised by movement between two loci in the sign space to express relationships between the referents that are associated with these loci (Zeshan 2003b:161). These signs move to a goal location from a source location, and, in simplified terms, convey grammatical relations such as subject and object (cf. Meir 2002) or local movement from one place to another.[21] Following Zeshan (2003b), signs are categorised here as being multi-directional, bi-directional or uni-directional, as described in the sections below. UgSL also has spatial verbs where the sign's movement indicates and maps onto the movement between two locations (e.g. FLY, MOVE, and the like). These are similar to other sign languages and are not discussed in detail here.

4.5.2.2 Multi-directional

Multidirectional signs are free to move around the sign space between any two loci in the horizontal plane in front of the signer. Multi-directional verbs in UgSL include HELP, ABUSE, SACK, and TRICK. Example (4-50) shows the sign CERTIFICATE, which is a multi-directional verb in UgSL.

(4-50) $_1$**CERTIFICATE-GIVE$_{2/3}$** GO WORK

'He gave her a certificate to look for a job/work.'

(Ug_mulesa_akol.eaf00:20-1)

4.5.2.3 Bi-directional

Bi-directional signs can move both towards and away from the body of the speaker but they cannot move between two loci in space. Bidirectional signs may or may not alter the orientation of the palm or the fingertips. EXPLAIN can

---

[21] Discussions in the literature about the exact nature of the relationship expressed by directional verbs, 'backwards verbs', etc, are not explored here.

be orientated in two different ways: away from the signer (for example $_1$EXPLAIN$_3$, as in (4-51)) or towards the signer (for example $_2$EXPLAIN$_1$ as in (4-52)). Also see Figure 4.5. However, it is not possible for these signs to be directed between two loci in the sign space (for example, between a second and third person).

Figure 4.5: The sign $_1$EXPLAIN$_2$

(4-51) **$_1$EXPLAIN$_3$** PRO$_3$ UNDERSTAND PA

'I explained to her that she did not understand.'   (Uga_diriisa.eaf00:02:34-5)

(4-52) **$_2$EXPLAIN$_1$-REDUP** HEAR PROBLEM **$_2$EXPLAIN$_1$**

'Please explain to me what the problem was.'

SHOW can also be inflected between different persons, but again, the first person has to be involved as either the subject or the object. In example (4-53), the verb moves from the first person locus outwards.

(4-53) TIME NEAR ELECTION **$_1$SHOW$_2$**

'She will show them because she expects the election soon.'

(Ug_amuge_amongi.eaf00:00:04-6)

Other examples of bi-directional verbs include TEACH, HELP, ANSWER and SPEND-MONEY.

Hendriks (2008:60) and Meir & Sandler (2008:86) describe how, in Jordanian Sign Language (LIU) and Israeli Sign Language respectively, verbs may be inflected not just for person agreement, but also for number agreement. The same is true in UgSL. For example, EXPLAIN may be inflected for distributive aspect, by moving to different locations away from the signer. EXPLAIN cannot be inflected to express the collective, since the hands must make contact in each discrete location, but SHOW can express the collective (as in 'show all of

102

them') through arc movement (see Chapter 5 for details on pluralisation in UgSL).

4.5.2.4 Uni-directional

Uni-directional signs are those where either the source or goal location is fixed (the other is variable). This means that movement is either away from the body, or towards the body. There are four known examples of uni-directional verbs in UgSL: TELL1, TELL2, DEFEAT and MESSAGE.

TELL1 is usually used to show that a piece of information has been shared. An example of TELL1 is given in (4-54).

(4-54) PRO$_1$ CHILD **TELL1** TEACHER $_{z+}$MOVE$_{+uz}$ SCHOOL
'Teacher told me she moved from school.' (Uga_lule_akomele1.eaf00:11:44-6)

In this case, the sign moves towards the body, for the object is the first person.

TELL2 is different from TELL1 because it demonstrates that many things have been conveyed. A different handshape is used, but otherwise the sign is articulated in the same way.

DEFEAT also always moves towards the first person, and indicates that the first person has been defeated (see example 4-55).

(4-55) FOOTBALL GAME DEM-$_{IX+z}$ WIN $_3$**DEFEAT$_1$**
'In the football game the opposite side defeated us.'

This sign may be reduplicated, to mean 'defeat someone many times', and may also be dual; that is, it is possible to express being defeated by two different parties at the same time, using two hands simultaneously (see Chapter 5 on dual forms in UgSL).

4.5.3 Pronouns

As pronouns are indexical in sign languages, that is, involve pointing in space, it is clear that they are intimately connected with the use of the sign space. Pronouns in UgSL are discussed in detail in Chapter 6.

4.5.4 Classifiers

Zwitserlood (2003:1) notes that 'many natural languages have elements called classifiers. Typically, these elements are morphemes that denote a salient characteristic of an entity, for instance, the characteristic of being human, being an animal, or having a particular shape.'

In sign language linguistics, classifiers are complex morphological systems (cf. Supalla 1978; Engberg-Pedersen 1993), comprising many meaningful units, and containing information about persons, animals or other objects. Classifiers are proforms that share common features, and occur in verbs of location or motion (Sutton-Spence and Woll 1999:47). Classifiers exist on the lexical-grammatical continuum as lexicogrammatical systems (Grinevald 2003:93), and can play a crucial role in sign language predicates through the handshape and movement of the classifier.

Schembri (2003:5) presents a continuum that ranges from simple, non-polycomponential verbs, such as predicate adjectives and plain verbs, to complex polycomponential verbs of motion and location, handling, and predicates of visual-geometric description. Classifier constructions occupy the polycomponential end of this continuum, since they include a 'highly productive combination of a range of meaningful units', which can specify figure, ground, motion, location, orientation, direction, manner, aspect, extent, shape, and distribution (ibid:6)

There are different subclasses of classifier handshapes, which are referred to in the literature through a large array of classifications. Liddell (2003) has shown that there are different approaches to analysing classifiers, for example, as visual images, or as morphemes/roots/affixes. Zwitserlood (1996) has reviewed classifer sub-classes with a view to providing a more unified account, using the following three major subclasses of handshape units: size and shape specifier (SASS), handle, and entity. This typology is used below for UgSL, along with one additional category of limb classifiers (see Section 4.5.4.4).

For spoken languages Grinevald (2000) and Aikhenvald (2003a) provide overviews and classifications of classifier constructions in spoken languages.

There is a correlation between transitivity and subclass of handshape units. Hendriks (2008:61) notes that handling classifiers are transitive verb constructions, while entity and SASS classifiers are intransitive. Handling classifiers are determined by the shape of a predicate object, which means that transitivity is an inherent part of this classifier construction. Example (4-56) shows a handling classifier construction where the carried-object classifier is determined by the nature of the referent object, BOX.

(4-56) PRO₃ **BOX A-**CL-CARRY-OBJECT-BOX

'She moved the box.'

In other words, handling classifier constructions are transitive because the verb is shaped by the form of an object.

On the other hand, entity and SASS classifiers are intransitive because they are not capable of taking an object. Although example (4-57) is glossed in English with a ditransitive verb (*ride*) which is transitive in this case, in UgSL this classifier construction is intransitive.

(4-57) r: PERSON B-CL-NEU-BICYCLE BICYCLE **B-**CL-NEU-BICYCLE-RIDE

l: Λ-CL-SEAT   Λ-CL-SEAT

'A man was riding the bicycle along the road.'

Zeshan (2003c:133-4) explains how a process of lexicalisation can lead to the formation of lexical items. For example, while the IPSL sign NEWSPAPER is based on a handling construction that suggests that a large, flexible object is being unfolded, its meaning has narrowed through regular use and convention to refer specifically to newspapers.

An example of lexicalisation in UgSL is the entity classifier **–C-**CL-AKAKEBE (*akakebe* is a Luganda word meaning 'soda bottle' or 'beer bottle'). This classifier construction has become partly-lexicalised in UgSL, as DRINK-AKAKEBE, but can still be used as a classifier.

Grinevald's (2000) typology of spoken language classifiers is useful for spoken languages, but the comparability of the constructions called 'classifiers' in signed and spoken languages has been qualified or contested. Schembri (2003) and Aikhenvald (2003b) agree that there are many questions concerning

the relationship between classifiers in spoken and signed languages that have still to be answered, and more research is necessary in this area. For these reasons, the UgSL classifiers discussed below are not analysed according to Grinevald's typology, but are grouped according to more traditional categories that have been defined in the literature on classifiers in sign languages. The categories that have been deemed most appropriate for UgSL are size and shape specifiers (4.5.4.1), handling classifiers (4.5.4.2), entity classifiers (4.5.4.3) and limb classifiers (4.5.4.4).

4.5.4.1 Size and Shape Specifiers

Size and shape specifiers (SASS) refer to objects by outlining their shape and size. Liddell and Johnston (1987) suggest that these may fall into one of three categories: 1) surface handshapes, 2) 'depth and width' handshapes, and 3) perimeter-shape handshapes. All of these can be found in UgSL.

Nyst notes that several African sign languages including UgSL and Adamorobe Sign Language, the sign language of a small rural community in Ghana, as well as hearing gesturers, use 'measuring stick signs', i.e. holding parts of the other hand or of the body to indicate size or shape (Nyst 2007:143). For example, to show the size of a fish, a signer might hold their forearm (indicating that the length of the fish is from that part of their forearm up to their fingertips), or they might hold the middle of their pinky finger (indicating that the fish was only as long as half of that finger).

4.5.4.2 Handling classifiers

Handling classifiers represent referents in terms of the way in which they are held, or handled. They can be spatially directed, moving between different points to show the movement of an object. The following are examples of handling classifiers:

- **C-**_{CL-CYLINDRICAL-OBJECT:} Examples include 'cup', 'bottle', and 'flask'.

- **C-BENT-**_{CL-STACK-OBJECT:} Examples: a pile of books, or a stack of paper (with increased space between thumb and fingers); a thin book, or a small number of papers. (with reduced space between thumb and fingers).

- **5-**_{CL-MASS-OBJECT:} Examples: large objects such as sacks and packets.

- **B-**_{CL-SUPINE-OBJECT:} Examples: objects such as plates.

- **A-**_{CL-CARRIED-OBJECT:} Examples: objects such as basins, or trays, that need to be carried using both hands, with one at each side of the object.

- **G-**_{CL-STICK-OBJECT}

This classifier is used to refer to stick-shaped objects such as pens. Diminutive non-manual features may be necessary to refer to thinner objects such as drinking straws. There are three handshapes that can be used for G-_{CL-STICK-OBJECT}: the 'G' handshape, the 'T' handshape, and the 'curve' handshape. The 'G' handshape would be suitable for referring to drinking straws. The 'T' handshape would be the suitable classifier for referring to eating (using cutlery), or using a hammer, or turning skewers to roast chicken. The 'curve' handshape could be used to refer to turning knobs on cookers, TV monitors, HiFis, or radios.

4.5.4.3 Entity classifiers

For entity classifiers, the hand becomes the entity (Hendriks 2008:61), although Schembri (2003:29) notes that classifier 'handshapes' are not necessarily restricted to the hand from wrist to fingertips – they may include the forearm as well. Hendriks (2008:61) notes that entity classifiers are frequently used in complex spatial constructions, and are part of intransitive verbs of location or motion. The following list of UgSL entity classifiers is not exhaustive.

- **B-**_{CL-PRONE-VEHICLE}

This classifier can represent cars, trucks, buses, and other vehicles such as trains.

- **B-**_{CL-NEU-BIKE}

This classifier uses a supinated handshape, and can represent motorcycles, or bicycles.

- **1-CL-PERSON**

This classifier can represent a single person, and can be inflected in multiple ways to give information about the referent, including plurality (see Chapter 5 for details).

- **5-CL-PEOPLE**

The collective classifier (5-CL-PEOPLE) refers to groups of people collectively. It can be used to show people moving forward together side-by-side or – with changes of location, movement and orientation – people moving forward in single file, standing in a circle facing the centre, etc.

- **S-ARM-CL**

As noted above, classifier 'handshapes' are not necessarily restricted to the hand from wrist to fingertips – they may include the forearm as well. This is true of UgSL, where the fist arm classifier (S-ARM-CL) is used to show a person, for example a person moving forward and looking around, falling over backwards, sitting down or standing up.

To show that two people bump into each other, both move forward, or both fall backwards, it is possible to use S-ARM-CL on both hands, but it is more common to just show the movement of a single person using S-ARM-CL

- **5-BENT-CL-ANIMAL**

In UgSL, it is ungrammatical to use the C-CL-ANIMAL classifier to refer to groups of animals. The hands are orientated differently (palm facing downward) in order to show the forward movement of groups of animals – this is denoted as 5-BENT-CL-ANIMAL.

- **C-CL-LONG-NECK**

This is used to refer to for animals that have long necks or bodies. This might include ostriches, giraffes, or snakes.

4.5.4.4 Limb classifiers

In addition to Zwitserlood's (1996) three major subclasses of classifiers, an additional category is added here – for limb classifiers – because these do not easily fit into any of the three categories described by Zwitserlood. These limb classifiers are partial entity classifiers, because they represent the limbs of people or animals.

Limb classifiers can be articulated with different movements, such as a limping movement, or a jumping movement, which provides evidence in favour of their status as classifiers. More research is needed to draw firmer conclusions about the status of limb classifiers as a category in UgSL.

There are several different handshapes that are associated with the limbs and feet of people:

- **B-CL-PRONATE-FOOT** shows the movement of a person's feet
- **PINKY-CL-HIGH HEEL** shows the movement of feet that are wearing high-heel shoes
- **5-CURVE-CL-SHOE** shows the movement of a person wearing shoes. Curving the handshape slightly shows that the person is wearing sports shoes, or travel shoes.

Another sub-group of partial entity classifiers refers to animals. Supalla (2003:255) proposes an analysis of 'body postural classifiers' for animals, with different handshapes representing the 'claws, paws, hoofs, feet, or fins' of different animals. These may be accompanied by 'size and shape classifiers that represent facial/head features, such as the shape of antlers, horns, ears, mouth, nose and eyes'.

Engberg-Pedersen (2003:316) seems to suggest that all animals are conveyed in DSL using just one entity classifier ('the handform of Two-legged-entity, but with the index and middle fingers curled'); however, in Uganda, this is not the case, and there are different types of classifiers, depending on the animal concerned.

Animal limb classifiers in UgSL include:

- **S-CL-HOOF** for horses, cows, goats, etc;

- **PAW-CL** to show the movement of lions, or domestic cats;
- **3-LIMB-CL-REPTILE/FLIGHTLESS** to show the movement of chickens, lizards or ostriches;
- **1-CL-ANTELOPE** to show the movement of antelopes (this is different to other classifiers, since it requires movements to each side of the sign space).

4.5.5 Time lines

Nyst (2007:109) points out that many of the sign languages that have been studied so far 'make extensive use of both relative and absolute time adverbials'. Relative time adverbials are often located on 'time lines' (ibid). Timelines are metaphorical representations of time (Sutton-Spence & Woll 1999:183), and in UgSL, three of these are linear timelines (Figure 4.6), while one is a circular celestial timeline (Figure 4.7).

4.5.5.1   Linear timelines

Timeline X runs horizontally across the space in front of the signer, from left to right. Timeline Y is sometimes referred to as the 'growth-line' (for example in Nyst 2007:135) and runs vertically to the side of the signer. Timeline Z runs along the signer's sagittal axis; the direction to the front of the signer represents the direction of time into the future, and the direction behind the signer represents the direction of time into the past.
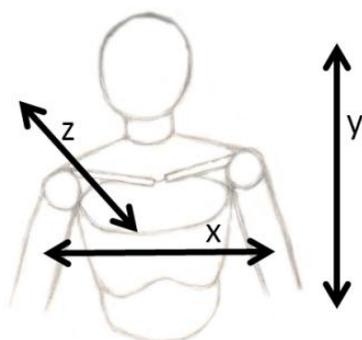
Figure 4.6: the dimensions of timelines X, Y and Z.

Timeline X can represent various periods of time; for example, it may be used to represent the period from 2000 to 2010, with 2000 appearing at one end, and 2010 at the other. Similarly, a period of one week can be presented on Timeline X, as in example (4-58), which contains the days of the week.

(4-58) FS:M-MONDAY **2h:B-**_{TL-SUPINE-FROM-TO+x-z} FS:F-FRIDAY PRO$_1$ SEEN
PRO$_2$

'Have you seen me around this week (Monday to Friday)?'

(Uga_mulesa_akol.eaf00:00:07-9)

Timeline X is also used to present the timing of events or processes in relation to each other, such that only part of the timeline is indicated. Thus in (4-59), the hands indicate the left half of timeline X, and in (4-60) the right half is covered.

(4-59) SCHOOL YEAR-PAST **2h:B-**_{TL-+y-x-y} DEM-$_{IX+d}$ ZERO

'The school year prior to year 1 is year 0.'

(4-60) **2h:B-**_{TL-+y-z} YEAR-FUTURE SEVEN SCHOOL FINISH

'There are seven school years after that; the final year of primary school is year 7.'

Timeline Y is used to refer to different ages or times in one's life. Sutton-Spence & Woll (1999:183) mention that this is one of the timelines that are used in BSL, while Nyst (2007:35) reports the existence of this timeline in Adamorobe Sign Language. Example (4-61) shows an example of Timeline Y from the corpus.

(4-61) GIRL SEE5 **B-**_{TL-VERTICAL-GROWTH+d-u}

'I have watched my sister's little girl grow up.' (Uga_amongi_akullo.eaf00:00:54-6)

Timeline Z runs along the signer's sagittal axis. There are many examples in the corpus which use Timeline Z. For instance, signs for MONTH2 and WEEK2 that incorporate number may be positioned along Timeline Z, as in (4-62) and (4-63).

(4-62) PROJECT WRITE REPORT B-BENT-_{TL-NEU-+sbz-sfz} DEM$_{+IX}$+++

MONTH2#THREE1-PAST-_{REDUP}

'I have written a quarterly (3-month) report on the project.'

 (4-63) FAIR PRO$_1$ MALARIA **WEEK2#THREE-PAST**

'I am feeling unwell because I have had malaria for three weeks.'

(Uga_KCa.eaf00:00:10-3)

In example (4-64), the sign YESTERDAY-PAST is reduplicated twice to indicate 'three days ago'. Each time, the sign is spatially modified, and moves slightly

further back along the timeline. It is possible to use reduplication in this way to indicate up to 'five days ago.'

(4-64) SN:T-Z $_{xu+}$FLY$_{+zd}$ **YESTERDAY-PAST-REDUP**

'I flew to Tanzania three days ago.'

The same process can be used with TOMORROW-FUT:

(4-65) KABAKA BIRTH+DAY FIVE ZERO ANNIVERSARY **TOMORROW-FUT++**

'The Kabaka (King) celebrates his fiftieth birthday in three days' time.'

Some verbal predicates can also appear on timeline Z. In (4-66) and (4-67), the sign MEETING is reduplicated several times along a timeline to show that there will be regular meetings over a period of time.[22]

(4-66) DEAF COUPLE WEDDING **MEETING-FUT+++**

'We will have regular meetings to plan the Deaf couple's wedding.'

(4-67) KYAMBOGO$_{+x}$ UNAD$_{+z}$ **MEETING-FUT++**

'Kyambogo University and the UNAD (Deaf Association) will have two meetings soon.'

4.5.5.2 Celestial timeline

The celestial timeline follows the usual position of the sun as it appears to move across the sky, and also refers to times through the night, when signers point to the ground to indicate the position of the sun as being on the other side of the earth.
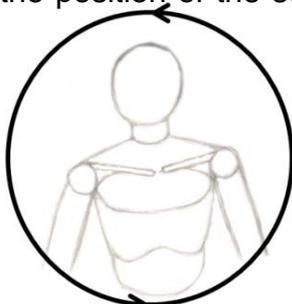
Figure 4.7: The celestial timeline.

---

[22] Note that the timeline here is shifted to the centre of the signing space. It has not been explored here whether or not this should be considered a separate timeline.

UgSL is not the only sign language to use a celestial timeline. Marsaja (2008:161-3) and de Vos (2012:214) describe how Kata Kolok uses a celestial timeline. Kata Kolok directs pointing signs at the usual position of the sun at a given time, to indicate the times of day and night (de Vos 2012:214). Nyst (2007:110) describes the celestial line that is used in AdaSL, along with several signs that are linked to this timeline, such as DAY and SUN. The use of a celestial timeline is not unique to sign languages, as several spoken language communities that use gestures based on absolute pointing systems also refer to celestial timelines (see for example Levinson 2003:262).

This timeline is used in (4-68) to indicate the passing of a whole day. In Uganda, the times of sunrise and sunset are more or less constant at 6am and 6pm, respectively, and in (4-68) this might be taken to mean that the person was working for around 12 hours.

(4-68) PRO₁ WORK1-REDUP B-TL-PRONE-DAY+x-u-z
'I work all day.'

To represent the hours of night time, the timeline continues from the right of the signer, moving downwards then upwards, and finishing to the left, as in (4-69). The whole timeline thus takes the shape of a circle as shown in Figure 4.7.

(4-69) MUST GO B-TL-SUPINE-NIGHT-MORNING+x-d-z
'I must (sleep in the hotel) all night, until the morning comes.'
(Uga_mulesa_makumai.eaf00:01:28-30)

Using the 360° timeline shown in Figure 4.7, it is possible to refer to specific times in UgSL. In (4-70) the passing of two hours is shown with reference to a section of the celestial timeline approximating around 30° of the timeline (15° per hour).

(4-70) B-BENT-CL-CHILD-HOLDER STAY AFTER LONG B-TL-PRONE-EVENING
'The deaf child stayed at the school for about two hours in the evening.'
(Uga_ssebenkitta_topher.eaf00:07:39-42)

113

The signs MORNING, AFTERNOON, EVENING and MIDNIGHT also make use of the celestial timeline.

It is particularly interesting that UgSL uses a celestial timeline, as thus far the use of a celestial timeline has only been noted for two village sign languages – Kata Kolok and Adamorobe Sign Language. UgSL is the first 'national' urban sign language for which the use of a fully-productive celestial timeline has been noted.

4.6 Non-manual features

In sign languages, non-manual features involving facial expressions, head positions and body postures are used at several levels of linguistic organisation. It was noted early on in sign language research (e.g. Klima and Bellugi 1979) that the linguistic facial expressions of sign languages are different from affective facial expressions, though they can be related. Linguistic non-manuals are rule-governed, for instance with respect to their co-occurrence with manual signs, whereas affective facial expressions do not follow lexically or syntactically motivated constraints. The manual signs that a non-manual expression co-occurs with are said to fall under the scope of the non-manual. UgSL uses non-manuals at several levels of linguistic organisation, which are represented schematically in Figure 4.8.
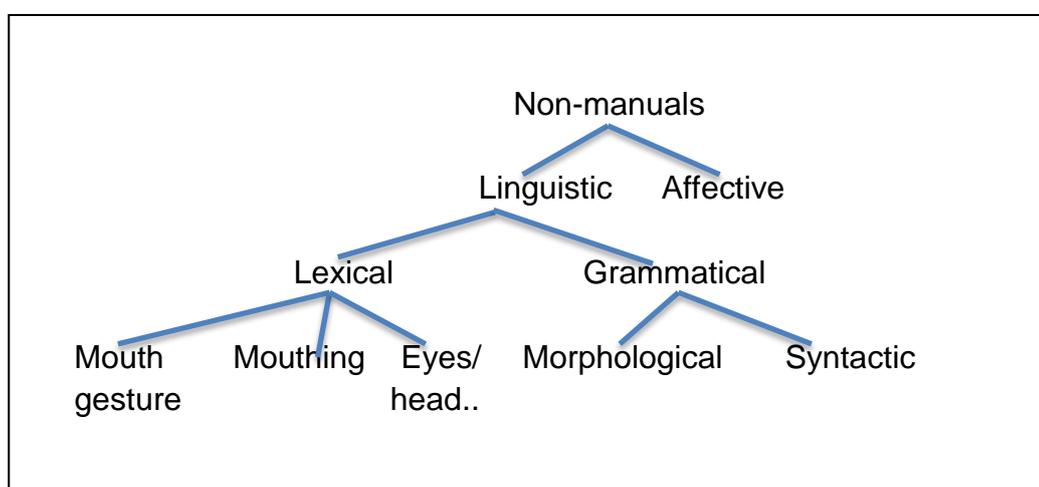
Figure 4.8: Non-manuals and levels of linguistic organisation

Non-manual features (NMFs) can again be split into two main categories, labelled lexical and grammatical here. Lexical NMFs are those which are attached to a single lexical sign. They have no separate meaning on their own, and are obligatory in the sense that they must always be performed alongside the sign's manual features. Therefore, these non-manuals operate at the phonological level of signs, and in addition to the manual phonological parameters, a non-manual phonological parameter can be said to be present in these signs. Lexical non-manuals thus do not spread across or affect any other signs in a given clause; that is, they do not have scope. Types of lexical non-manual features include mouth gestures (such as puffed cheeks), mouthings (i.e. mouth patterns based on words from spoken languages), and other movements, e.g. of the eyes or head. The term 'mouthing' is used here to denote those mouth movements that are related to the visible articulation patterns of a word from the spoken language, while mouth gestures are unrelated to spoken language (see Boyes Braem and Sutton-Spence 2001). Throughout Part III of this thesis, many examples of lexical non-manuals can be found. For instance, one of the negators is glossed PA (see Chapter 8) because of the prominent, obligatory mouth gesture occurring with this sign. One of the wh-question signs has a mouth gesture <i> as well as lowered eyebrows and squinted eyes, all of which are obligatory components of the sign. UgSL tends to have obligatory mouth gestures, but mouthings are often optional, such as those often co-occurring with other question words (see Chapter 7 on wh-questions).

Grammatical NMFs can be divided into two categories, labelled morphological and syntactic. Some NMFs occur at the level of single signs, but unlike the obligatory phonological components of the sign's form in lexical NMFs, they seem to function as optional additional mopheme. Like their lexical counterparts, these "morphological" NMFs are articulated with one sign only and do not spread across a clause. While phonological and syntactic non-manuals are amply documented in the sign linguistics literature, the use and status of non-manuals as morphemic is less well-known, so it is briefly exemplified below.

One area where NMFs seem to function on the morphological level is in marking aspect (see also Section 4.6 of Part II on non-manual expressions in

UgSL). Manual expression of completive aspect in UgSL uses the signs FINISH or BEEN (see Chapter 8). In addition or alternatively, non-manual expressions are an important part of many aspectual distinctions in UgSL. One example is the use of mouth gestures to express completive aspect. Completive can be marked in UgSL with the mouth gesture <fi>, which does not have to accompany the manual form of the completive, but it can be used by itself with other predicates. This phenomenon has been noted in other sign languages, for example the completive PAH in Kata Kolok, where the mouth gesture (a lip-smack) can also attach itself to other lexical predicates (de Vos 2012:116). A paradigm of several mouth gestures to mark aspectual distinctions has also been reported for Turkish Sign Language in Dikyuva (2011). In examples (4-71) and (4-72) the mouth gesture <fi> accompanies the sign ARRIVE.

<div style="text-align:center">‾‾‾‾‾<fi></div>

(4-71) SN:SAM ARRIVE

    'Sam has arrived.'

<div style="text-align:center">‾‾‾‾‾<fi></div>

(4-72) r: A-_{CL-HANDLING-BAG}-- NEAR JINJA ROAD

    l: WALK++ ARRIVE

 ‾‾‾‾‾‾<fi>

    ARRIVE

•   'Holding my bag, I walked there, and arrived near Jinja Road.'

<div style="text-align:right">(Uga_ssebenkita_topher.eaf00:13.29-31)</div>

In example (4-73), <fi> indicates that enough food has been eaten for the person to feel full, while in (4-74) it indicates that the book has been given.

<div style="text-align:center">‾‾‾‾‾<fi></div>

(4-73) EAT FULL

    'I have eaten enough.'

<div style="text-align:center">‾‾‾‾‾‾‾‾‾‾<fi></div>

(4-74) BOOK ₃GIVE₁

    'She has given me the book.'

In example (4-74), it is the non-manual <fi> alone which indicates that the act of giving has been completed – no manual marker is necessary.

A second mouth gesture, <po>, can also indicate the completive aspect in UgSL.

<div style="text-align:center">‾‾‾‾‾<po></div>

(4-75) SN:SAM HOME ARRIVE

'Sam arrived home.'

<div align="center">_____<po></div>

(4-76) CHRISTMAS ARRIVE VILLAGE

'For Christmas I arrived in the village.'

<div align="right">(Uga_busingye_namazzi2.avi00:25:58-26:02)</div>

<div align="center">__<po></div>

(4-77) HIDE PRO$_1$ SIGN4 PRO$_3$ SEE3 BEAT-HAND[23]

'I tried hiding but they spotted me and disciplined me.'

<div align="right">(Uga_faith_kennth.avi00:19:17-9)</div>

In (4-77), the sign SEE3 is a manual sign with the <po> non-manual, and in this case it means 'spotted'.

In example (4-78), <po> and <fi> are interchangeable (compare with 4-73).

<div align="center">__<po></div>

(4-78) EAT FULL

'I have eaten enough.'

More research is needed to discover the precise functions of, and differences between, <po> and <fi>, but it is clear that their use is parallel to the other documented cases of aspectual non-manuals such as in Kata Kolok and in Turkish Sign Language.

Syntactic NMFs are the only type that can spread across clauses, affecting more than one sign. Syntactic NMFs in UgSL include those indicating yes/no questions, those used in wh-questions, and those signifying negation (see the chapters on interrogative constructions and on negation in Part III). Other clause types that may also be indicated non-manually in UgSL, including

---

[23] There is also a single sign glossed SEEN. A process of phonological assimilation has led to the signs SEE2 and FINISH becoming a single sign SEEN ('have already seen'). To articulate this sign, the handshape from SEE2 is used, along with a reorientation of the wrist (as in the sign FINISH) and the completive non-manual expression <fi>.

complex clauses, have not been investigated in any detail in this thesis, but the range of clause types marked non-manually in UgSL seems similar to what has been found in many other sign languages (cf. Baker & Padden 1978; Liddell 1980 for ASL; Coerts 1992 for NGT and Zeshan 2000b for IPSL).

Yes/no (polar) questions in UgSL are indicated through use of a non-manual feature at the end of the utterance or throughout it. Manual features alone cannot signify a polar question. UgSL sometimes allows particles in polar questions, but the NMF is always essential. Normally, this non-manual feature is raised eyebrows, as shown in example (4-79a) below:

```
                 ____br
(4-79a)    r: DEAF[24]
           l:  PRO₂-------
            'Are you Deaf?'
```

Polar questions can also feature squinted eyes, if the signer thinks the respondent might know the answer to the question (i.e. if they are asking a confirmation question). The squinted eyes may also have a pragmatic function, as they have a slightly more polite connotation than the usual raised eyebrows (example 4-79b below).

```
                 ___sq
(4-79b)    r: DEAF
           l:  PRO₂-------
            'You're Deaf, are you not?'        (Uga_lule_akomele1.eaf00:02:44)
                 _____sq
(4-80)     WORK PRO₂ FINISH
            'You've finished work now, right?'
```

UgSL polar questions commonly contain the tag TRUE, as in example (4-81). This is optional, but the non-manual features are obligatory.

---

[24] This gloss (DEAF above PRO₂) indicates that both signs are performed simultaneously, i.e. DEAF with the right hand, and PRO₂ with the left.

<div style="text-align:center">_____br</div>
<div style="text-align:center">_____<ma></div>

(4-81) HAIR POSS₂⁻ₑₘₚ TRUE

> 'Is your hair truly your own?'

Context: the participant is enquiring as whether the person is wearing a wig or not.

The use of non-manuals in wh-questions and in negative clauses is discussed in Chapters 7 and 8 respectively.

Finally, in many sign languages the answers to polar questions are communicated through non-manual features, such as headshakes and nods (e.g. Sutton-Spence & Woll 1999: 66; Antzakas 2006: 260). For example, BSL expresses 'yes' mostly through nods and 'no' through headshakes. Manual components can be used in conjunction with these non-manual signs, but in many sign languages, manual signs for 'yes' appear only rarely. UgSL, like other sign languages, also has non-manual-only ways of signalling affirmation (by head nod) and negation (by headshake). In addition, in UgSL there is also a manual sign for 'yes', with several slightly different meanings (e.g. confirmation, agreement, and affirmation), and this must be accompanied by non-manual features. UgSL signers sometimes use the manual interjection NO, which is a borrowing from ASL, particularly when emphasis is required. Using negation in other contexts involves a variety of complex negation signs, which are described in Chapter 8 of this thesis.

4.7   Sign order patterns of UgSL

4.7.1   Spoken and sign languages 'word order'

A large number of studies in grammatical language typology (covering spoken languages) suggest that there are six basic possible word orders, categorised in terms of the fundamental typological parameters of ordering the constituents labelled S, O and V (e.g. Dryer 1997:3, 2005:303). For instance, in a study of basic word order in African spoken languages, Watters (2000) reports that '…of the 300 languages included in the study, 71 per cent were SVO, 24 per cent were SOV, and 5 per cent VSO' (p. 197). However, Watters concludes that the syntax of many other African languages is unknown due to being understudied (p. 208).

Many grammarians (e.g. Quirk et al. 1985:49, 53-4) recognise or point to clause constituents labelled S (subject), V (verb), O (object), C (complement) and A (adverbial). On this basis, Quirk et al. (1985:53-4) recognise seven sentence patterns (or clause types), namely:

(1) SV
(2) SVO
(3) SVC
(4) SVA
(5) SVOO
(6) SVOC
(7) SVOA

We return to these patterns in Section 4.7.2.

British Sign Language, American Sign Language, Croatian Sign Language and Russian Sign Language have all been said to use either SOV or SVO sign order (e.g. Brennan & Turner 1994, and Sandler & Lillo-Martin 2006:288–98, cited in Kimmelman 2012:415). For ASL, scholars argue that sentences with plain verbs use SVO order (de Quadros & Lillo-Martin 2010:225-6), whereas those with agreeing and spatial verbs are SOV (Kimmelman 2012). In Kimmelman's detailed study of ordering of signs in Russian Sign Language, a clear distinction is made between the order of signs for plain and agreement verbs (SVO) and classifier constructions (SOV). Kimmelman suggests an option to classify the first group of signs, containing the SVO order, as the 'basic order', the only justification for this being the morphological complexity of the second group that employs SOV order (p. 438), as this is seen as making the latter more marked. However, the author of this thesis would warn against deciding on the basic order of sign languages based on a simplicity factor, and Kimmelman does consider that the best option may be to propose a dual order approach:

> We can solve the contradiction in two possible ways. One is to claim that SVO is the basic word order and that classifier predicates are more marked morphologically, which explains why SOV is then used. The alternative is to say that there are two main word orders: SVO for plain and agreeing verbs and SOV for classifier constructions, neither of which

is more basic. At this stage of research on RSL syntax, it is impossible to decide between the two positions.

(Kimmelman 2012:439)

Attempts to discover one basic, underlying sign order in sign languages may thus lead to difficulty and may be inappropriate. It would seem more efficient to facilitate analysis that allows sign languages to be analysed according to an approach that permits more complex patterns, such as variable sign order according to discourse context or other factors, or several alternative sign orders.

An alternative framework to thinking about sign order in terms of S, V and O constituents is to focus primarily on predicates and arguments, an option that was also explored in Section 4.7. In relation to the classifications of signs, this alternative framework may be more effective. Thus clauses in sign languages have a subject argument (representing the theme or topic) and a predicate (representing what is said about the subject, which may also include information about who or what is impacted by an action, i.e. an object). Perhaps one of the most important differences between word order in spoken languages and sign order in signed languages is that the former can only be linear (i.e. only one sound segment at a time may be produced), whereas the latter can exploit the syntactic strategy of simultaneity (Kimmelman 2012:473). The next section explores approaches to sign order in UgSL.

4.7.2 UgSL sign order

As this thesis does not afford the space to conduct an in-depth analysis of UgSL sign order, this section will provide a brief explanation of the possible sentence patterns and further research will be needed in order to examine this area fully. It has been noted already (in Section 4.7.1-2) that frameworks for classifying elements that apply to many spoken languages can be difficult to apply in the analysis of signed languages. This issue remains for the study of ordering of elements also, particularly with respect to simultaneity. As discussed below, considering possible simultaneity of constituents in UgSL suggests that sign order is discussed more appropriately, for the time being and until further in-depth research, using the notions of predicates and arguments.

4.7.2.1 Intransitive clauses with a single argument

Clauses with intransitive predicates have a single nominal or pronominal argument. In UgSL, these clauses are always predicate-final, as in these examples:

(4-82)   HEAD-IX ACHE

             '(My) head aches.'

(4-83)   BABY SLEEP

             'The baby is sleeping.'

Entity classifier constructions that are intransitive predicates also have predicate-final sign order if there is a nominal argument present in the clause:

(4-84)   CAR **B-CL-PRONE-PARK+d**

             'A car is parked there.'

The reverse orders in the above examples are unattested and would seem ungrammatical. Clauses with an initial intransitive predicate do not occur in the corpus data, except if the argument is a pronoun. Pronouns may occur after the intransitive predicate, and this occurs particularly in polar questions (example 4-88), but this order also occurs in other clauses.

4.7.2.2 Clauses with several arguments

UgSL clauses with several arguments are overwhelmingly predicate-final, as in these examples:

                                     _____**<fi>**
(4-85) BANNER-$_{REDUP}$ PRO$_1$ LOOK$_{+u}$ **SEEN-$_{REDUP}$**

     'I used to read the banners.'

                                  _____**<fi>**
(4-86) PRO$_3$ WOMAN BOOK $_3$**GIVE$_1$-COMPLETIVE**

     'The woman gave me a book.'

A few utterances are attested in the data where an object comes after the predicate, as in (4-87). However, these are relatively rare in the data and may be the subject of English influence.

(4-87) TRUE WHY/ **BECAUSE** WOMAN WANT BEER

'That's right…it's because the woman likes to drink beer.'

Again, sign order with pronominal arguments is more variable. For instance, (4-88) shows an utterance with object pronoun – predicate – subject pronoun order (example repeated here from Section 4.5.5):

(4-88) FS:M-MONDAY 2h:B-TL-NEU-FROM-TO+x-z FS:F-FRIDAY **PRO$_1$** SEEN **PRO$_2$**

'Have you seen me around this week (Monday to Friday)?'

As mentioned above, in UgSL, morphosyntactically complex constructions such as classifier constructions enable the simultaneous expression of clause constituents. This means that arguments may be produced simultaneously with a predicate, in particular transitive and locative predicates,[25] whereas arguments and predicates must be articulated separately in spoken languages due to the modality difference. In UgSL, simultaneous two-handed signing also allows for different arguments/predicates on each hand.

This articulation of simultaneity is expressed in the Table 4.5 by the gloss //. The table contrasts UgSL with spoken languages, here exemplified by English and Luganda (from Kiingi 2013a). Instead of the constituents labelled A and C in Quirk et al. (1985), both are combined into a 'nonobject' category (X) in the table, which indicates a complement or adverbial element that English and Luganda, and UgSL sentence patterns may include. This symbol also accounts for other non-argument/predicate elements, such as adjectival modifiers and other elements articulated via non-manual features. Object arguments are subdivided into primary (direct) objects (O^1) and secondary (indirect) objects (O^2). For instance, the structure in 4.5.4.b means that a separate sign for the subject argument is followed by a sign whose semantics include both the predicate and the indirect object.

---

[25] This includes those called 'contactive' and 'causative' in Figure 4.1 above.

	English (Quirk et al. 1985)		English & Luganda (Kiingi 2013)		UgSL
4.5.1a	SV	4.5.1b	SP	4.5.1c	SP
4.5.2a	SVC/SVA	4.5.2b	SPX	4.5.2c	SX//P
4.5.3a	SVO	4.5.3b	SPO^1	4.5.3c	SO^1//P
4.5.4a	-	4.5.4b	SPO^2	4.5.4c	SO^2//P
4.5.5a	SVOC/SVOA	4.5.5b	SPOX	4.5.5c	SOX//P
4.5.6a	SVOO	4.5.6b	SPOO	4.5.6c	SOO//P

Table 4.5: English, Luganda and UgSL sentence patterns (adapted from Kiingi 2013a)

The simultaneous expressions glossed with // are exemplified in the following example, which includes non-manual features as well as differential actions on both hands:

(4-89) MAN PRO$_3$ SHOOT-KICK-BALL   ___<poo>_____sq
        //GOAL NYO-$_{REDUP}$

     DH:Y-$_{CL-GOAL-POST}$--------------------------------

     'That man really did not expect to score the goal.'

It is due to this morphological complexity that it is more effective to refer to 'arguments' and 'predicates' in the analysis of UgSL, where information about arguments and predicates in all clauses can be expressed as separate signs or simultaneously within one sign.

4.7.2.3   Modifiers and grammatical particles

In UgSL, it is often grammatically correct for modifying elements to occur before or after nominals, as is shown below with PENCIL and RED+ISH 'pink'.

(4-90a)   PENCIL **RED^ish** GET HARD
       'It's difficult to find a pink pencil.'

(4-90b)   **RED^ish** PENCIL GET HARD
       'It's difficult to find a pink pencil.'

The relative frequency of these orders has not been investigated in this thesis.

There is a strong preference in UgSL for clause-peripheral placement of grammatical particles such as clause negators (see Chapter 8), question particles (see Chapter 7), and completives such as FINISH. Preference for either clause-initial or clause-final placement is also seen with content interrogatives (see Chapter 7). Particular sign order regularities regarding grammatical markers are detailed in individual chapters in Part III where relevant.

PART III A DETAILED SURVEY OF FIVE MORPHOSYNTACTIC DOMAINS

5   NUMBER AND QUANTIFICATION

For spoken languages, it is common to distinguish between two different domains: number and quantification. According to Langacker (1991: 74), '[m]any languages have a category of **number** (e.g. singular vs. plural), which tends to be marked on the head noun. Beyond this, all languages have a variety of **quantifiers** (e.g. *one, three, several few, most*) that make possible a finer-grained distinction of quantity.'

Number is a grammatical category of languages, which is, in the prototypical case, inflectional in nature. Thus number typically involves inflectional morphemes, which may indicate various grammatical relationships, such as agreement (Corbett 2000:66). Spoken languages often have distinct ways of expressing number in different word classes, such as nominal and verbal plurals (Haspelmath et al. 2005 and Corbett 2000:243ff). Quantification, on the other hand, concerns the lexical formation of quantificational expressions and how they are used in larger constructions (cf. Gil 2001; Peters and Westerståhl 2006), including numerals as an important subset of quantificational expressions. In all languages, the expression of number and quantification forms part of the lexical and grammatical system (Croft 1990:30-31).

Thus, this chapter is concerned with the category of number in UgSL in Section 5.1, and with quantification in Sections 5.2 - 5.5. Section 5.1 explores how the category of number applies to several sign classes including nominal, verbal, and adjectival signs, as well as pronouns, numerals and classifiers. To express non-singular categories, particularly dual and plural, UgSL uses suppletion, handedness, handshape change, reduplication, and various movement patterns. The sections on the numeral system and the various numeral series of UgSL (Sections 5.2 - 5.4) include cardinal, ordinal and restrictive numerals, an account of the decimal and the digital numeral sub-systems, the internal morphology of numeral signs, and the role of iconicity in UgSL numerals. Finally, the Section on quantification (Section 5.4) discusses lexical quantifiers, idioms and interrogatives in the domain of quantification.

5.1 Number and sign classes

5.1.1 Introduction

This chapter covers the expression of number in six different sign classes: pronouns, nominal signs, verbal signs, classifiers, adjectival signs, and numerals. These categories are broadly identified on the basis of their semantics here (see the survey of UgSL grammar in Part II, Section 4.2 for more on sign classes.) This chapter does not discuss specific numeral signs, but rather describes the expression of number as a grammatical category in UgSL, specifally focusing on the ways in which dual and plural reference is realised in the different types of signs. Rather than going into the details of each plural marking strategy, the aim of this section is to characterise the inventory of processes for the expression of non-singular referents in each sign class. A conclusion from this material is then drawn in Section 5.1.8.

5.1.2 Plurality in pronouns

There are five ways of expressing non-singular number with personal pronouns, which are realised by pointing. To express two referents (dual), two options are available:

a. Simultaneous pointing with both hands (e.g. the form glossed $PRO_{1/2}$)
b. Dual pronouns using a handshape with two extended fingers (e.g. TWO-OF-US)

For reference to more than two entities, the available structures are:

c. Plural pronouns with arc movement (e.g. WE-CENTRAL, $PRO_{2\text{-}3\text{-}PL\text{-}COLL}$)
d. Distributive form of plural pronouns (e.g. $PRO_{2\text{-}3\text{-}PL\text{-}DISTR}$)
e. Non-singular pronouns with numeral handshapes (e.g. 3/4/5-OF-US-CENTRAL, 3/4/5-OF-US-TOGETHER)

Iterative forms (repeated pointing to the same location) are not used in UgSL for plural reference. Instead, this form belongs to a separate pronominal series, glossed REF). In the various pronominal series of UgSL, not all non-singular forms are always possible. For example, pronouns that require a specific

handshape cannot form a dual using two extended fingers, and for some pronominal series, first person reference is restricted. For a detailed account of these pronominal structures and their use, see Chapter 6, Section 6.2 on pronouns.

5.1.3 Plurality in nominal signs

The expression of non-singular in UgSL nominal signs is broadly similar to what has been described for other sign languages in Steinbach (2012: 113ff). That is, UgSL uses both zero marking and reduplication (see Section 5.1.3.1). Moreover, whether or not reduplication is applicable to a sign depends on its phonological features.

Nouns in UgSL are sometimes assumed to be singular in the absence of a numeral sign or a plurality marker. Thus, it would be odd to sign NEWSPAPER ONE ('one newspaper') unless emphasis is required, because the sign NEWSPAPER without a cardinal number or non-singular inflection automatically means 'one newspaper'. An appropriate context can, however, result in plural interpretation without any overt morphological plural marking (zero marking).

5.1.3.1   Patterns involving reduplication and spatial distribution

Reduplication is morphological (i.e. it occurs within words), and therefore distinct from repetition, which is a phenomenon of syntax and discourse (Gil 2005b:31). In sign languages, reduplication refers to the phenomenon whereby a sign is articulated repeatedly in either the same location (iterative) or in different locations (distributive).

The plurality of nouns such as HOUSE is shown by reduplication of a sign in different locations (distributive form), and without an explicit numeral sign being necessary (see example (5-1) below). UgSL can also exploit simultaneity in the case of dual nominal signs, as in example (5-2) below where the sign TREE is produced in two different locations at the same time, using both hands.

(5-1) HOUSE-$_{\text{DISTR}}$

   'houses'[26]

(5-2) r: TREE-$_{\text{DUAL}}$

   l: TREE-$_{\text{DUAL}}$

   'Two trees'

Interestingly, reduplicating a nominal sign in the same place (iterative form) can also be used to signify plurality, thus both BOOK++ and BOOK-$_{\text{DISTR}}$ are possible in UgSL. Not all nominal signs can be pluralised using distributive or iterative forms, but as the focus here is on an inventory of possible forms, the particular restrictions applying to UgSL have not been investigated in detail. As in other sign languages (cf. Steinbach 2012), nominal signs whose articulation is anchored to the body cannot be subject to distributive reduplication in UgSL. Moreover, iterative forms are also restricted. For instance, without reduplication the body-anchored sign CUP[27] can have either nominal status ('a cup') or verbal status ('drink from a cup'). However, the iterative form CUP-$_{\text{REDUP}}$ only has a verbal interpretation ('keep drinking') and cannot mean '(many) cups'. Details on verbal reduplication can be found in Section 5.1.4 below.

In some instances, it is also possible to add an arc movement to nominal signs, in the same way as with collective plurals in pronouns. For instance, CHILD, TREE, and HOUSE can have an arc movement to express plurality. This is often accompanied by an intensifying facial expression with puffed cheeks, thus conveying a more intensive plural meaning equivalent to 'very many; a very large number; all of them' in English. Plural nominals with arc

---

[26] If the three reduplications are signed more slowly and deliberately, this construction can mean 'three houses', but the triplication in (5-1) indicates plural.

[27] See the UgSL Dictionary (Wallin et al. 2006:408)

movements seem to be unusual across sign languages, and are not mentioned in Steinbach (2012); therefore, this area deserves further research in future.

5.1.3.2 Suppletion

Suppletion can be defined as 'the relation between two stems when a regular grammatical opposition is expressed with maximum irregularity' (Corbett 2000:155; Dryer 2005a:138). Some sign languages, including Finnish Sign Language (FinSL) and DSL, only use modification for pluralisation, and not suppletion (Engberg-Pedersen 2003). However, UgSL uses both suppletion and modification (often reduplication) to show plurality.

To signify 'people' in UgSL, signers can use either a suppletive form PEOPLE (different from PERSON), as shown in Figure 5.1 on the right, or a reduplicated form of the sign PERSON, shown in Figure 5.1 on the left. The sign PEOPLE is a borrowing from ASL.

Figure 5.1: The signs PERSON and PEOPLE

(UgSLD picture sign PERSON: 936, Wallin et al. 2006)

Grammatical and ungrammatical usages of PEOPLE and PERSON are given in examples (5-3 to 5-5) below. An important distinction is that PEOPLE would not be able to inflect for location, but PERSON can. Therefore, a signer could use a distributive reduplicated form (PERSON-$_{DISTR}$) by placing these signs further away from the body to denote 'those people over there', but PEOPLE is fixed to one location, and cannot inflect in this way.

Normally, PERSON is strictly used in singular contexts (see 5-3a and 5-3b below) and PEOPLE is only used in plural contexts, as in (5-4a) and (5-4b). However, both PEOPLE and PERSON can be used with a quantifier (such as MANY in examples 5-5a and 5-5b).

(5-3a) HOUSE+RENT DEM-$_{IX+y}$ **PERSON** ONE

'Only one person is paying the rent.'

(5-3b) *HOUSE+RENT DEM-$_{IX+y}$ **PEOPLE** ONE

'Only one person is paying the rent.'

(5-4a) TAXI BOARD-IN **PEOPLE** FULL

'The taxi is full of people.'

(5-4b) *TAXI BOARD-IN **PERSON** FULL

'The taxi is full of people.'

(5-5a) UGANDA INDEPENDENCE **PEOPLE** MANY HAPPY

'Many people were happy when Uganda became independent.'

(5-5b) UGANDA INDEPENDENCE **PERSON** MANY HAPPY

'Many people were happy when Uganda became independent.'

There seems to be no clear semantic difference between (5-5a) and (5-5b), except that (5-5a) is possibly more influenced by English.

A very narrow restriction of suppletion (in this case, only one lexical item) is not uncommon across languages, and reference to humans seems priviledged in terms of allowing additional pluralisation strategies. For instance, in the Benue-Congo language Igbo, only the nouns 'child' and 'person' have suppletive plurals, with no overt plural marking for the rest of the lexicon (Creissels et al. 2008:118).

5.1.4 Plurality in verbal predicates

According to Corbett (2000:245), not much is known about verbal number, even though scholars have found that many spoken languages from across the world have this feature, including many African languages (Creissels 2000:247). Verbal number can be defined as 'number related to the semantics of the verb, and not merely marked on it' (ibid:243). UgSL should be added to the list of languages with verbal plural, for it, like many sign languages, uses both a variety of aspects that show verbal plurality, and classifier constructions that, in some cases, can be considered as being akin to verbal number (see Section 5.1.5 for further discussion of classifiers, which are considered separately here).

5.1.4.1 Reduplication: Iterative and distributive aspect

Corbett (2000:246) explains how verbs can show number. He mentions that the language Hausa shows event number, but this inflection on its own is ambiguous, as shown in the following example (ibid):

(5-6) *naa a"aikee su*

      I   send.PL them

  a. 'I sent them at the same time to different places.'

  b. 'I sent them at different times to the [same] place.'

  c. 'I sent them at different times to different places.'

In UgSL, verbs can also inflect for event number (through reduplication and/or the simultaneous use of both hands), but in contrast to Hausa these inflections can also differentiate between the number of times, number of locations, and the direction. For examples (5-7a) and (5-7b), there is thus no ambiguity of meaning:

(5-7a) r: YESTERDAY **SEND-DUAL**

      l: **SEND-DUAL**

      'Yesterday I sent them at the same time to two different places.'

(5-7b) YESTERDAY **SEND-REDUP+z**

      'Yesterday I sent it there several times.'

Reduplication of both the distributive and the iterative type is a common way of showing verbal plurality in UgSL; this process also interacts with the nature of verb agreement in UgSL and in sign languages generally, as verbs in sign languages have been found to agree in terms of number and location, using movement patterns of the hand and also including possible simultaneous use of both hands. However, not only directional verbs can be pluralised by reduplication in UgSL; there are also many instances of non-directional verbs that can be subject to reduplication.

In verbal number inflections in UgSL, non-manual features can convey important additional semantic content. For example, in combination with reduplicated movement of the verb sign, a slightly puffed cheek means

'sometimes', a greatly puffed cheek means 'many times', and a protruding tongue means 'a few times'.

Eulenberg (1971:73 in Corbett 2000:245) points out that verbal number shows repeated or habitual action. This is also true for UgSL; for example, a single index finger can move repeatedly from one location to another to show that one person has moved between two places, to and fro many times (e.g. from home to office).

5.1.4.2   Verbal number and arc movement

Some verbs can inflect to show plurality using an arc movement; for example this movement can be applied to the sign GIVE-CERTIFICATE if there are multiple recipients. The arc movement usually goes from left to right. The directional sign SEND can also inflect in this way (see example 5-7a above). Section 4.5.2 in Part II summarises the occurrence of multidirectional verbs in UgSL.

5.1.4.3 Plural handshapes in verbal predicates

A few UgSL verbal signs can inflect by incorporating a numeral handshape to show the number of participants. This can indicate a particular, specific number of referents, as in example (5-8). It is currently unclear whether this structure should be assigned to the verbal predicates or to the classifier constructions (see Section 5.1.5.2 on numeral incorporation with classifiers), as this seems to be an area of overlap between these two domains. This issue has not been pursued, in detail, as again it is the inventory of forms that is of primary interest here. The sign ENTER has the potential to inflect for numbers from one to five.

(5-8)   BANK DEM-$_{IX}$ 2h: CURRENCY-EXCHANGE **ENTER-FOUR**
         'Four people went into the currency exchange.'
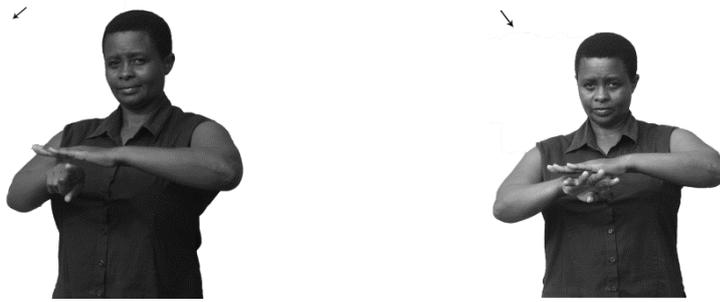
Figure 5.2: The signs ENTER and ENTER-FOUR

(UgSLD picture sign PERSON: 936, Wallin et al. 2006)

In some other UgSL signs, pluralisation by handshape change results in the expression of a non-specific plural. For instance, signing SEE with a 4-handshape instead of its usual 2-handshape, either one-handed or two-handed, means 'many people looking' and does not refer to any specific number '4'.

5.1.5 Plurality in classifiers

5.1.5.1 Reduplication with classifiers

For classifiers, reduplication is very often associated with spatial distribution, so that exact spatial arrangements can be conveyed. A classifier that is reduplicated in different locations is called a *distributive classifier*. In addition to distributive forms that are parallel to the nominal and verbal distributive forms described above, distributive classifiers have a wider range of formational possibilities. For instance, in the corpus data there are frequent occurrences of distributive classifiers where the non-dominant hand is held still in a classifier handshape (e.g. representing a cup or piece of paper) while the dominant hand performs the 'distribution' of the same classifier. This pluralisation strategy is also mentioned for ASL in Baker-Shenk & Cokely (1991:297). Arc movements, alternating two-handed movements, and iterative movement patterns are also well-attested in the UgSL data. For further background on classifiers, see Section 4.5.4 of Part II.

In addition to a non-specific plural ('many entities'), distributive classifiers may also give a specific number to the plural, using spatial placement of the noun, e.g. the sign C-$_{\text{CL-HANDLING-CUP+DISTR}}$ 'three cups (on the left, middle and right)'. Moreover, distributive classifiers sometimes co-occur with cardinal numbers. This is because the usual limit for distribution is five. Numbers above

five are normally shown by (i) signing the noun (e.g. BOOK); (ii) articulating the classifier in four or five locations; and (iii) signing the appropriate numeral (e.g. TWELVE), or the sign NUMBER 'many' for non-specific pluralisation. The use of a distributive classifier is not compulsory in such cases, however. The signer may choose simply to articulate: BOOK TWELVE 'twelve books'.

5.1.5.2 Numeral incorporation with classifiers

The digits of the hand can have meaning both for cardinal numerals and for classifier constructions, and it is interesting to consider examples where these coincide in UgSL. Index classifiers representing a number of people can show how many people are referred to. It is fair to say that, as soon as movement types are used, such as location, distribution, path and manner of motion, the sign changes from a cardinal numeral to a classifier construction.

The index classifier (see Section 4.5.4.3 in Part II) can inflect for any number up to 10 (using the extended fingers of both hands for referents between 6 and 10). It is not possible to refer to a specific number of referents above 10 with an inflected form. In fact, the index classifier with incorporated number 10 means either '10 people' or 'many people' depending on the context. If desired, this can be preceded by a cardinal number to show the actual number of people in question.

UgSL can also use simultaneity to show people coming from different directions at the same time (the classifier sign for 5-$_{CL}$ 'five people' looks similar to the numeral sign FIVE1, but quite different to the numeral sign FIVE2, which is comprised of a fist; these two numeral signs are described and depicted in Table 5.6b-c in Section 5.2.3 below). This is illustrated in example (5-9), and is constructed in the same way as dual forms of other sign classes (see sub-Section 5.1.5.3 on dual classifiers).

(5-9) PERSON **5-CL-FIVE-COME+z-1**

　　　　5-CL-FIVE-COME+x-1

'Five people are coming from here and five are coming from there, at the same time.' [28]

This simultaneity can be used to show up to five people on each side of the signer; in sentence (5-9), the hands are held apart and move in toward the signer. In contrast, for 'here come a bunch of people', the hands are held close together in front of the signer.

Moreover, UgSL has a collective classifier meaning 'a group of people', which is suppletive with the index classifier; that is, its form (two C-hands touching at the finger tips) is unrelated to and not derived from the index classifier.

5.1.5.3 Dual classifiers

The dual form usually involves both hands (e.g. two flat hands with palm facing downwards to indicate 'two beds'). Classifiers featuring simultaneity (the use of both hands at the same time to indicate two different objects) are referred to as *dual classifiers* here. Dual classifiers can be used to indicate 'feet' or 'two cars', as in example (5-10) below.

(5-10) r: CAR **B-**CL-NEU-PARKED-VEHICLE+Z

      l: **B-**CL-NEU-PARKED-VEHICLE+X

'There were two cars next to each other.'

It is uncommon for dual classifiers and cardinal numerals to co-occur in UgSL.

5.1.6 Plurality in adjectival signs

Adjectival plurality is shown by repeating the adjectival sign (e.g. NEW, GOOD NEGATIVE or CHEAP) in different locations (distributive form). This is possible for many adjectival concepts, as long as the sign is not anchored to the body. However, iterative forms are rare, and are only possible for a few signs, e.g. NEW-REDUP.

---

[28] Note that it would not be grammatically correct to use FIVE2 in this situation.

The distributive form signals that the adjectival concept applies to several referents, which are conceived of as associated with several spatial locations (e.g. WORK NEW-$_{DISTR}$ 'new jobs here and there'). When an iterative form is used, it refers to a repeated occurrence over time (e.g. WORK NEW-$_{REDUP}$ 'a new job each time').

In addition to reduplication, some adjectival signs can also receive an arc movement. For instance GOOD-$_{COLL}$ and DHAIFU-$_{COLL}$ have forms with arc movement for pluralisation (the latter sign with a stationary non-dominant hand and the arc movement on the dominant hand only). As with nominal signs, these plurals are rare with adjectival concepts.

5.1.7 Plurality in numerals and quantifiers

It is interesting to observe that signs expressing numerals and quantification in UgSL can themselves have plural or dual inflections. Like other signs, numerals can be localised in the signing space, as shown in (5-11).

(5-11) NOW **THREE$_{+x}$ FOUR$_{+y}$ TWO$_{+z}$**

'Now divide up into a group of three to my left, a group of four in the middle and a group of two to my right.'

As the numerals up to NINE are one-handed, it is then possible to double the hand and articulate two numbers at the same time, in the same way that dual number is expressed in nominal signs (Section 5.1.3). It is also possible to have a distributive form of numerals, both one-handed and two-handed (e.g. TEN$_{+x}$ TEN$_{+y}$ TEN$_{+z}$ to express 'ten each'). This is often used when talking about the distribution of money, as in example (5-12).

(5-12) PAY **50$_{+x}$ 50$_{+y}$ 50$_{+z}$**

'Pay them 50 each.'

It is also possible for an arc movement to apply to numeral signs in UgSL, as in example (5-13).

(5-13) SPORT ACCOMMODATION ROOM **FIVE1-$_{COLL}$**

'All in the sports (team) are accommodated five persons per room.'

In addition to numerals, various quantifiers can also be pluralised in UgSL. For instance, the signs HALF/SOME, TONO1, TONO2, and FULL (see Section 5.4.2) can be pluralised using distributive, iterative, and/or arc movement patterns.

Examples (5-14a) and (5-14b) below illustrate distributive forms. In the examples, the sign for 'half' has a different orientation depending on whether the noun it modifies is a liquid or solid, so HALF/SOME in (5-14a) 'cuts across' a vertical entity, while HALF/SOME in (5-14b) divides an entity in the horizontal plane.

(5-14a)   GLASS CUP-GLASS WATER GLASS **HALF/SOME-DISTR**
            'Three half-full glasses of water.'

(5-14b)   FOOD PLATE PLATE **HALF/SOME-DISTR**
            'Three half-portions of food.'

5.1.8 Conclusion

It is striking that in UgSL, the expression of number does not map onto 'traditional' word classes. In spoken languages, the expression of number often depends on word classes, so that different word classes use different means of expressing number categories such as singular, dual, and plural.

For example, in Luganda (Uganda's principal spoken language (Kiingi 2007), **nouns** are inflected for number; for example, *omusajja* 'man' becomes *abasajja* 'men'. It can be necessary for **adjectives** to be modified as well: *omulungi* means 'beautiful' when describing a single tree, but this adjective changes to *emirungi* when describing beautiful trees (plural). The prefixes operate within a system of noun classes. **Verbs** such as 'to drink' are also inflected to express number, for example in (5-15a) and (5-15b) below.[29]

(5-15a)   *omusajja anywa* 'the man is drinking' – singular

(5-15b)   *abasajja banywa* 'the men are drinking' – plural

In many languages, items higher in the 'animacy hierarchy,' such as first person pronouns, tend to show number in more ways than items lower in the hierarchy, such as inanimate objects (Corbett 2000:55-6). However, this animacy hierarchy does not exist in the case of UgSL, or any other signed language to the author's knowledge.

Plurality is a salient grammatical feature across the word classes of UgSL, but there is no clear-cut mapping between word classes on number. In UgSL, it is not possible to say something like 'nouns are pluralised by…' and 'verbs are pluralised by…'; the morphological mechanisms for pluralisation cut across the main concept classes. Thus if one wanted to carry out an analysis to identify sign classes in UgSL, looking at pluralisation strategies is not likely to be very helpful, also because each sign class has restrictions on which processes can apply to which signs, so that no morphological plural is applied to all members of a sign class.

This section has discussed several morphological processes related to the grammatical category of number. Table 5.1 displays the various ways of pluralising signs within the conceptual sign classes by morphological means, with an 'X' where a particular combination has not yet been found (e.g. an adjectival sign with a plural handshape).

Handshape change for pluralisation is very restricted in UgSL: even where it is found within a sign class, there are only a few examples where a plural handshape is used. The other morphological processes are more productive, both across and within sign classes.

Iterative forms do not seem to be exploited for plural forms in the numeral and the pronominal sign classes, and this is an interesting point for further research. The distributive morphology has maximum productivity, as it can apply to a large number of signs in all sign classes.

	Numerals and quantifiers	Pronouns	Adjectival signs	Nominal signs	Verbal predicates	Classifiers
Handed-ness (dual)	EIGHT-DUAL HALF1-	PRO$_{1/2}$-DUAL	GOOD-DUAL	TREE-DUAL	SEND-DUAL	CAR B-CL-DUAL

	DUAL					
Plural handshape	X	3/4/5-OF-US-CENTRAL	X	X[30]	ENTER-FOUR	4-$_{CL-COME3-1}$
Arc movement	FIVE1-$_{COLL}$	PRO$_2$-$_{3-PL-COLL}$	GOOD-$_{COLL}$	CHILD-$_{COLL}$	GIVE-CERTIFICATE -$_{COLL}$	Fence; or army soldiers in circle
Iterative	X	X	NEW++	BOOK++	GO, SEND-$_{REDUP+z}$	Pile of bank notes
Distributive	TWO$_{DISTR}$	PRO$_{3+}$ $_{2+3-PL}$	GOOD, HALF2-$_{DISTR}$	HOUSE-$_{DISTR}$	GIVE-CERTIFICATE, HELP, SEND	B-$_{CL-SUPINE-DISTR}$ (cows)

Table 5.1: Morphological processes indicating plurality across sign class

The expression of number overlaps with other grammatical systems. Iterative and distributive forms overlap with the aspectual system in the domain of verbal concepts; that is, some aspectually marked forms of predicates are plural, while others do not indicate plurality (see the Section 4.4.4 on aspect in Part II). The distributive strategy overlaps with locus marking, and is relevant in this thesis repeatedly, e.g. for pronouns, classifiers, time expression and interrogatives, and in the sections on spatial modification (Part II, Section 4.5.1) and directional verbs (Part II, Section 4.5.2; see also Sandler & Lillo-Martin 2006:376). In the case of directional verbs, iterative and distributive as well as arc movement patterns form part of verb agreement paradigms. Plural handshapes appear in instances of numeral incorporation when they show specific plurals, but also show indefinite plurals where no particular numeral is incorporated.

Many instances of pluralisation in sign languages include information about spatial distribution. There is a split between those morphological processes that express a spatial pattern together with the pluralisation (arc

---

[30] This cell in the table would be filled if time lexemes are considered nominal signs, which is not clear at present.

movement, distributive) and those that do not include spatial information (handedness, plural handshape, iterative). The effect this has on the semantics of pluralisation would need to be explored in a future study. Meanwhile, it is of interest to note that the same morphological forms result in different meanings when applied to different signs. For example, the iterative for of SEND means sending repeatedly over time, but iterative reduplication with BOOK is not related to time. For classifiers, both meanings are possible: B-_{CL-BOOK} 'book' repeated means 'put the book in the same place each time', but 2h:B-_{CL:PILE-MONEY} 'money notes' means pile of bank notes.

Classifiers can be used to pluralise those signs that cannot form any plurals themselves, e.g. CAR followed by a plural classifier. Conversely, classifiers on their own have abstract, general meanings related to the shape and distribution of entities (via the handshape and the movement of the sign), and they do not usually refer to specific objects on their own. A separate lexeme is needed to refer to specific entities, and then a classifier can be added to convey pluralisation for those signs that cannot form morphological plurals. If morphology is not available to form plurals, a classifier construction can be used.

Finally, suppletion is only found in two signs in the data, a nominal and a classifier sign, both of which refer to humans. As mentioned above, this is in line with other signed and spoken languages, where reference to humans has additional properties not found elsewhere.

5.2 Cardinal numerals

This section gives a descriptive account of numeral systems and operations involving cardinal numerals. After discussing numeral bases and operations, sources of iconicity in numeral signs from written numbers and from gesture are discussed, followed by the internal morphology of numeral signs in UgSL.

5.2.1 Numeral bases and operations

UgSL has characteristics of both decimal and digital numeral systems, which is relevant to a discussion of numeral bases operating in the language. Cross-linguistically, a base number can be defined as a number on the basis of which other, higher numbers are constructed by applying various arithmetical

operations to the base (cf. Comrie 2005a). This commonly occurs by way of addition (e.g. *twenty-five* in English is 20+5) or multiplication (e.g. *five hundred* in English is 5 x 100).

Many spoken and signed languages use a decimal, or base-10, number system (Comrie 2005b), and the majority of known sign languages are decimal (cf. Zeshan et al, forthcoming). Like other sign languages UgSL is decimal in that there are distinct forms for 0-9, which are then repeatedly used in the construction of higher numbers. By contrast, in a base-5 system, the numeral 5 would be used in complex constructions such as '5+2' to express '7', '5+3' for '8', and so on, but this is not the case in UgSL.

However, UgSL also has features of a digital system, which occurs more rarely across sign languages. It is common across sign languages to express multiples of ten by using a numeral handshape together with a movement pattern, as also occurs in UgSL for expressing hundreds and thousands (see Section 5.2.3.2). Some sign languages express multiples of ten by consecutive addition of a base number; for instance, in Kata Kolok, '30' is indicated by articulating the sign for 10 three times (de Vos 2012). However, in UgSL, most numerals are expressed by signing each number as it would occur in writing, that is, '25' is signed TWO FIVE, '195' is ONE NINE FIVE, and so forth. Following Zeshan, Escobedo Delgado, Dikyuva, Panda & de Vos (forthcoming), this numeral system is called 'digital' because each digit of the number is signed successively, and there is no mathematical operation between the individual digits. In effect, this means that these numerals are constructed without reference to any base numbers, which seems to be very unusual in spoken languages (the cross-linguistic study by Comrie (2005b) includes various kinds of numeral bases but no instances of numerals without a base number.

In UgSL, only the numerals 11-19 and exact multiples of 100 and 1,000 are additive and multiplicative respectively, while other numerals follow the digital system. When signing the individual digits, there is a difference between those numerals where the hand moves sideways in between the articulation of the digits, e.g. when signing '22', and those numerals where the hand remains stationary, e.g. when signing '30' (see Figure 5.3).

Figure 5.3: The sign for '22' and '30'

(UgSLD picture sign: 1000 and 974, Wallin et al. 2006)

Additive numerals are used in UgSL only for the numbers between 11 and 19. These are compounds consisting of TEN and the sign for the digit. Multiplicative operations are used for exact multiples of 100 and 1,000, which are formed in UgSL using the process known as 'numeral incorporation'. Details on the formation of compounds and on numeral incorporation for constructing cardinal numerals are given in Section 5.2.3 on the morphology of numeral signs.

5.2.1 Iconicity in cardinal numerals

Many sign languages express numerals by using a combination of (a) extending a certain number of fingers, such as used in many sign languages for the numerals from one to five (Wiese 2003:151); (b) using handshapes that reflect the written form that numbers take, and (c) using arbitrary numeral signs that are not iconic. UgSL uses all three options. A non-iconic numeral handshape is FIVE2, which uses a clenched fist. The numbers 6-9 are derived from writing, and 1-5 are expressed by extended fingers. The iconic sources of writing and gesture are discussed in the following sub-sections.

5.2.2 Iconicity from writing

Number systems may be iconically motivated or arbitrary; in spoken languages they are mostly arbitrary whilst in signed languages they are mostly iconic (Taub 2001; Grinevald 2003:101-2) 'Zero' and 'one' are iconic in many sign languages and reflect the shape of the written Arabic numerals '0' and '1' (Hurford 1987). In UgSL, signs SIX, SEVEN, EIGHT and NINE are also iconic, as they follow the shape of the written Arabic numerals.

144

The cardinal numeral ZERO is expressed on the dominant hand, and resembles the written Arabic numeral '0' (see Figure 5.4 below). It has the same phonology as the fingerspelled letter 'O' in UgSL. ZERO is used across different domains such as money, dates and age. Articulation of the sign may involve a stationary holding of the handshape or sometimes a circling movement of the hand clockwise. However, only the stationary form is used in combination with other numeral signs to form higher numerals.

The 'zero' handshape also appears in negative existentials, such as in the sign NONE1 (see Chapters 8 and 9 on negation and possession/existence).

Figure 5.4: The sign ZERO and the alphabet letter 'O'

(UgSLD picture sign: 769 and 767, Wallin et al. 2006)

In UgSL, the cardinal numbers from 6 to 9 are iconic and resemble the form of Arabic numerals. All four numbers are articulated on one hand (the dominant hand), each with a different orientation (see Table 5.2).

5.2a		5.2b	
5.2c		5.2d	

Table 5.2: Iconic signs for 'six' to 'nine', reflecting the shapes of Arabic numerals

(UgSLD picture sign: 837, 921, 1027 and 835, Wallin et al. 2006)

The handshapes used in SIX, EIGHT and NINE only occur in these numeral signs and are not used anywhere else in the phonology of UgSL.

5.2.2.1   Iconicity from gesture

There are both overlaps and discrepancies between UgSL numerals and the conventional gesture systems of the wider hearing community. The main UgSL forms for the cardinal numerals 1 to 5 appear similar to the gestures used in wider hearing society (and the signs of other deaf communities) in Sub-Saharan Africa (see Nyst 2007; Soneira 2008), but there are variants that are different from gestures.

The cardinal numerals from 1 to 5 are articulated on the dominant hand alone. In UgSL, it is particularly important that these numerals are articulated with the correct orientation, i.e. the back of the hand facing away from the sign (Soneira 2008:20). If the orientation is incorrect, some numerals could be confused with letters that share the same handshape, e.g. TWO, 'V'; THREE2, 'W'; THREE1 and 'F' (see Table 5.3). There are variants of THREE and FIVE, referred to as THREE1, THREE2, etc.

5.3a		5.3b	
	Sign for TWO '2'		Sign for V
5.3c		5.3d	
	Sign for THREE2 '3'		Sign for W

5.3e		5.3f	
	Sign for THREE1 '3'		Sign for F

Table 5.3: Numeral signs and letter signs with similar phonology

(UgSLD picture sign: 999, 1014, 1042, 1043, 973, and 978, Wallin et al. 2006)

UgSL and Adamorobe Sign Language have similar signs for THREE, and each language has two variants (Nyst 2007:103). There are two ways to sign FIVE in UgSL (see Table 5.4). For FIVE1, the dominant hand has all five digits extended and spread. FIVE2 uses the dominant hand in a fist handshape. Unlike FIVE2, FIVE1 can be used as a classifier handshape for 'five people' (see Section 4.5.4 on classifiers in Part II and Section 5.1.5 on plurality in classifiers in this chapter). For the one-handed sign for 'four', glossed as FOUR1, the digits are extended and spread (see 5.4a). There is another variant for 'four' in which the first and second, and third and fourth, fingers are pressed together (see 5.4b). This variant, glossed here as FOUR2, was rare in the data.

5.4a		5.4b	
	Sign for FOUR1 '4'		Sign for FOUR2 '4'
5.4c		5.4d	
	Sign for FIVE1 '5'		Sign for FIVE2 '5'

Table 5.4: The sign variants for 'four' and 'five'

(UgSLD picture sign: 686, 685 and 785, Wallin et al. 2006)

The variant FOUR2 has a handshape rarely seen in hearing people's number-related gestures or in other documented sign languages, but it is also found in Kenyan Sign Language, where it has been found in rural areas both with signers and gesturers, according to Morgan (pers. comm.).[31]

5.2.3 Morphology in cardinal numerals

5.2.3.1   Compounding

Compounding is used in several spoken languages to form number words. In Luganda and Swahili, all numbers above 10 exploit compounding. Such morphological means are also seen in UgSL numbers, where the signs for '10' to '19' are formed by compounding. The formational characteristics of compounds, which may belong to both nominal and verbal concept classes, are described in Section 4.2.1.1 of Part II. This section focuses on compounding in numerals, which in UgSL is used in numerals 11-19.

The numeral sign TEN, the semantic base of the decimal numeral system in UgSL, is formed with two fist handshapes as in FIVE2 above, which are brought into contact (see Figure 5.5). This is the only variant of TEN in UgSL; unlike in other sign languages, a sign where both hands have all digits extended is not used. Example (5-16) from the data illustrates how this sign appears within an utterance.

Figure 5.5: The sign TEN

(UgSLD picture sign: 1583, Wallin et al. 2006)

(5-16) (GIRL-CHILD) AGE **TEN**

---

[31] See also KSL dictionary sign no. 521.

'My niece is ten years old.'   (Ug_amongi_akullo.eaf00:01:10-2)

Numerals from 11 to 14 are formed using compound signs that begin with the sign TEN as the initial component. The non-dominant hand is then held while the relevant number (between 1 and 4) is articulated on the dominant hand (see Table 5.5). Compounding is indicated in the glosses with the symbol '+'.
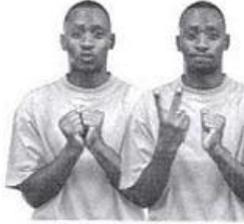
5.5a	5.5b
Sign for TEN+ONE '11'	Sign for TEN+TWO '12'
5.5c	5.5d
Sign for TEN+THREE1 '13'	Sign for TEN+FOUR1 '14'

Table 5.5: The compounds sign in numerals for '11-14' (TEN+ONE-FOUR)

(UgSLD picture sign: 1587, 1590, 1589 and 1585, Wallin et al. 2006)

As with other compounds, forms for numbers from 11 to 14 have undergone a process of assimilation that affects the movement and the orientation of articulation. In particular, this applies to the timing of the formation relative to the two hands, with the continuous hold on the non-dominant hand, and an accelerated transition to the final numeral handshape of the dominant hand.

The number '15' is formed in one of three ways (see Table 5.6). FIFTEEN1 and FIFTEEN2 participate in the same type of compounding process as the numbers from 11 to 14, using the compound TEN+FIVE1 or TEN+FIVE2 respectively and involving the same phonological characteristics of compounding. FIFTEEN3 follows the digital strategy mentioned in Section 5.2.1; that is, it consists of ONE and FIVE1 presented sequentially on a horizontal axis, glossed ONE FIVE1. The digital strategy cannot be used to construct a numeral *ONE FIVE2 to mean '15'.

149

5.6a	Sign for TEN+FIVE1 '15'	5.6b	Sign for TEN+FIVE2 '15'
5.6c	Sign for ONE FIVE1 '15'		
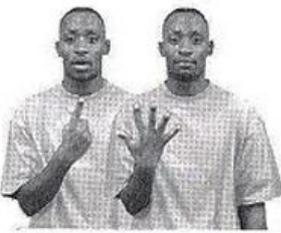
Table 5.6: Variants for '15'

(UgSLD pictures: 1584, 1586 and 858, Wallin et al. 2006)

The numerals 16-19 can be formed in the same way as either FIFTEEN1 or FIFTEEN3. In other words, they can be articulated using a two-handed compound of TEN and the corresponding number sign (e.g. SIX in the case of '16'), or as a sequence of separate digits following the digital system (e.g. ONE SIX). The latter must involve one hand only; using both hands for sequential digital numerals is ungrammatical.

5.7a	Sign for ONE SIX '16'	5.7b	Sign for ONE SEVEN '17'
5.7c	Sign for ONE EIGHT '18'	5.7d	Sign for ONE NINE '19'
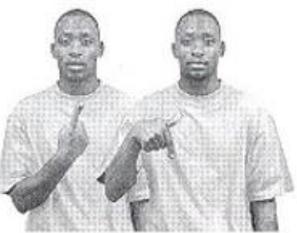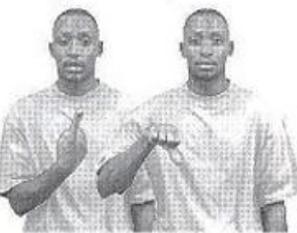
Table 5.7: The UgSL digital numerals for '16-19' (ONE SIX - NINE)

5.2.3.2   Numeral incorporation in multiples of 100 and 1,000

Numeral incorporation involves the simultaneous expression of a numeral handshape and a unit, as defined in Part II, Section 4.4.1. In the case of morphologically complex numerals, the unit itself is also a numeral. Numeral incorporation occurs with multiples of 1,000 and has also been developing with multiples of 100 in UgSL. Numeral incorporation with other units in UgSL is covered in Section 5.2.4.

The UgSL sign HUNDRED 'hundred' (as in 'five hundred', 'eight hundred', etc.) seems to have originated as a digital series of numerals or a compound, and it has been phonologically reduced further over time through a process of assimilation to its current form. While the sign can still be articulated with three clearly distinct digits in sequence (ONE ZERO ZERO), the two zeroes are frequently no longer distinguishable, so the sign HUNDRED now looks more like ONE followed by a single (elongated) ZERO, though signed in a more fluid way than the gloss suggests (see Figure 5.6 and example 5-17).
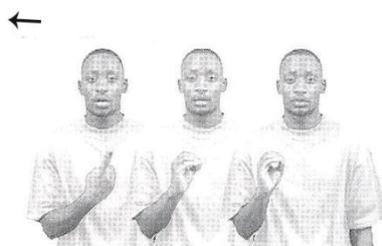
Figure 5.6: The sign HUNDRED

(UgSLD picture sign: 863, Wallin et al. 2006)

In its most reduced form, the sign for '100' now resembles the morphological process of numeral incorporation, whereby a numeral handshape is combined with a movement pattern, in this case a sideways movement with closing of the hand. However, it seems that this process, from digital numeral to compound to numeral incorporation, is still on-going in this case.

For numbers that are not exact multiples of one hundred, each digit is signed separately. For example, '101' is signed ONE ZERO ONE rather than *ONE+ZERO ONE or *TEN ONE or (cf. examples 5-18 and 5-19).

(5-17) **HUNDRED** OKUGAANA

'No, it wasn't one hundred (kilometres per hour).' _(Ug_mulesa_akol.eaf00:03:16-7)

(5-18) CAR POSS_{1-IX} L-_{CL-SQUARE-NUMBER-PLATE} NUMBER **FIVE TWO SIX**

'My car number-plate is 526.'

(5-19) SHOOT-SPEED 1-_{CL–INDEX-SPEED-KPH-TURN+u-z} **ONE TWO ZERO**

'The car was clocked at over one hundred and twenty kilometres per hour.' _(Ug_mulesa_akol.eaf00:03:13-5)

Numerals involving multiples of a thousand units always have to make reference to the sign THOUSAND. This sign is derived from the UgSL sign for 'comma' (as used in some written languages to express units of a thousand). THOUSAND may be a phonologically reduced form of signs for 'one' and 'comma'. This sign is frequently used to create numeral incorporated forms to signify multiples of one thousand. Such incorporation necessitates a downward, oblique flick of the dominant hand, whose handshape changes to convey the number of 'thousand' units that are being referred to (see Figure 5.7). As is often the case with numeral incorporation in UgSL, not all numbers can appear in incorporated forms with THOUSAND. Only numbers 1-9 are phonologically able to be incorporated in this way. However, THOUSAND is indistinguishable from ONE#THOUSAND as the same handshape with extended index finger is used, which is why the gloss (ONE#)THOUSAND is used here. Examples (5-20) and (5-21), the latter from the data corpus, include incorporated signs (ONE#)THOUSAND, TWO#THOUSAND and THREE#THOUSAND.

Figure 5.7: The sign (ONE#)THOUSAND and TWO#THOUSAND

(UgSLD picture sign: 872 and 1012, Wallin et al. 2006)

_____hn

_____<puff>

(5-20) MONEY POSS$_{1\text{-PU}}$ **ONE#THOUSAND**

'Yes, I have a thousand Ugandan shillings.'

(5-21) MONEY PAST **TWO#THOUSAND** PALM-UP **THREE#THOUSAND**

'Previously, my monthly salary was only about two or three thousand Ugandan shillings.'   (Uga_ssebenkitta_topher.eaf00:19:31-3)

In contrast to the numerals in (5-20) and (5-21) above, '10,000' involves the numeral TEN, which uses both hands and thus cannot be followed with a downward, oblique flick. This means that 'ten thousand' is usually signed TEN+THOUSAND (see Figure 5.8), as a compound sign, rather than using numeral incorporation. As in the compounds discussed above, the non-dominant hand is held throughout the sign.

For some signers, it is possible to convey '10,000' with the numeral-incorporated form TEN#THOUSAND, which involves moving the sign TEN downwards and twisting it slightly. However, this sign occurs only rarely.

Figure 5.8: The sign TEN+THOUSAND

(UgSLD picture sign: 1588, Wallin et al. 2006)

Multiples of 1,000 greater than 10,000 do not use numeral incorporation; in these forms, the numeral sign for the thousand unit (e.g. EIGHT SIX '86') would be followed by the sign THOUSAND. But, as with numerals involving the 'hundred' unit, numbers such as '1,001' are signed ONE-ZERO-ZERO-ONE following the digital system, rather than *ONE#THOUSAND ONE.

The form THOUSAND is often used in semantic domains such as monetary value (see Section 5.2.4.2). However, in the context of dates, the

digital system is used rather than combinations with THOUSAND. The sign THOUSAND can be pluralised using the distributive form, as explained in Section 5.1.7 in this chapter.

5.2.4 Numeral incorporation with other units

In addition to numeral signs that involve the simultaneous expression of two components as shown in the previous section, numerals in UgSL have become incorporated into signs that frequently co-occur with number concepts, such as signs relating to units of time and money.

As far as the use of numeral incorporation versus the use of separate lexical signs is concerned, sometimes the options available depend on the numeral in question, as the production of some signs (such as SEMESTER, see Figure 5.11) has a limit of up to five for incorporation, while other signs have a limit of nine.

5.2.4.1 Calendar

- Calendar year

UgSL has numeral-incorporated signs for 'year,' which can inflect not only for number but also to signify whether the event is in the past, for example YEAR-$_{PAST}$ 'one year ago' or the future, YEAR-$_{FUT}$ 'next year'.

Figure 5.9: The sign YEAR-$_{FUT}$

For example, (5-22) from the data shows the use of a numeral-incorporated sign, using YEAR#THREE2- $_{PAST}$.

(5-22) START **YEAR#THREE2-$_{PAST}$** RECENT

'It started three years ago.'   (Uga_mulesa.eaf00:06:45-7)

154

If reference is being made to a specific calendar year, i.e. a date, each numeral of the year has to be articulated separately (as mentioned in Section 5.2.3.2, the sign THOUSAND is not used in this context), e.g. in (5-23):

(5-23) TWO ZERO ZERO ZERO
　　　 'The year 2000'

Unlike calendar years, school years in UgSL cannot use numeral incorporation. Primary school years in Ugandan society are referred to as *primary one, primary two,* and so on up to *primary seven.* Secondary school years are known as *senior one, senior two*, etc., up to *senior six.* These are shortened to P1, P2... and S1, S2... respectively. In UgSL, these are signed P+ONE, P+TWO, S+ONE, S+TWO, and so on. However these signs do not use the usual letters from the UgSL manual alphabet for P and S. Instead, they use letters from the BSL manual alphabet, which was used in Uganda before there was influence from ASL. The letters P and S from the BSL alphabet are also the basis for the signs P-PRIMARY 'primary (school)' and S-SECONDARY 'secondary (school)' (see Figure 5.10).

Figure 5.10: The sign P-PRIMARY and S-SECONDARY

(UgSLD picture sign:1883 and 1715, Wallin et al. 2006)

- Semester

The UgSL sign SEMESTER also incorporates numerals, much like a similar sign in Spanish Sign Language (Soneira 2008:55), but it is only permissible to incorporate numbers from 1 to 5 (see Figure 5.11). Where the number of semesters is greater than 5, this must be expressed sequentially, for example SIX SEMESTER 'six semesters'.
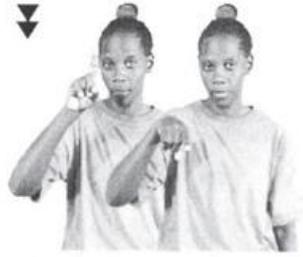
Figure 5.11: The sign SEMESTER

(UgSLD picture sign: 875, Wallin et al. 2006)

- Month

UgSL also has a sign incorporating numerals that can be modified to mean 'one month', 'two months', etc., up to 'nine months'. It is important to point out that these signs are phonologically distinct from the sign MONTH (see Figure 5.12), although they appear to be related historically. This relationship is visible because the handshape of the non-dominant hand is an extended index finger in both MONTH and all the numeral-incorporated 'month' signs. It is the dominant hand in these signs that differentiates them. In MONTH, the index finger of the dominant hand is bent closed over the thumb (a 'T' handshape), while in ONE#MONTH, 'one month' TWO#MONTH 'two months', etc., the dominant hand incorporates the numeral.

Figure 5.12: The sign MONTH

(UgSLD picture sign: 1957, Wallin et al. 2006)

It is not possible to use numeral incorporation if the number of months is greater than nine; it is mandatory to express these cases sequentially, as in (5-24):

(5-24) MONTH **TEN+ONE**

'Eleven months'

The fact that the dominant hand is different in MONTH and the numeral-incorporated signs is perhaps unusual amongst sign languages, as in others (e.g. ASL) the citation form MONTH is the same as the sign for ONE#MONTH 'one month'. In UgSL, however, it appears that the citation form MONTH has been 'neutralised', as no numbers are incorporated in its form.

- Week

One of the signs meaning 'week' in UgSL (i.e. WEEK2) incorporates number, while the other, WEEK1, does not (see Figure 5.13).

(5-25) HOSPITAL SICK-ᵢₙₜₑₙ **WEEK2#ONE WEEK2#TWO**

    'He was in hospital with malaria for two weeks.'

<div align="right">(Uga_ssebenkitta_topher.eaf00:00:33-6)</div>

As with other sign languages (Liddell 2003:43), UgSL allows for reduplication of the numeral-incorporated sign WEEK2 (see Figure 5.13) to mean 'every week', 'every two weeks', etc.

Figure 5.13: The sign WEEK1 and WEEK2

(UgSLD picture sign: 939 and 1792, Wallin et al. 2006)

- Day

There are three signs for 'day' in UgSL. DAY1 refers to 'day' as opposed to 'night', and does not allow numeral incorporation. DAY2 incorporates a 1 handshape on the dominant hand, and effectively means 'one day' (see Figure 5.14). Numeral incorporation is possible with this sign for up to five.

Figure 5.14: The sign DAY2

(UgSLD picture sign: 228, Wallin et al. 2006)

When days are being discussed in terms of time reference (future and past) a timeline is used, which runs alongside the cheek on the side of the dominant hand, from in front of the signer to behind the signer. For 'in two days' time,' the dominant hand incorporates the number TWO, and moves to a location a little way in front of the signer, becoming TWO#DAY3-$_{FUT}$.

In order to sign 'two days ago,' the dominant hand also incorporates the number TWO, but this time moves to a location a little way behind the signer, becoming TWO#DAY3-$_{PAST}$. In terms of semantics, this is parallel to numeral incorporation with calendar years as discussed above, which also incorporates both a numeral handshape and an indication of past or future reference.

It is more common to use incorporation with DAY3 for numbers up to three or four. To sign, for instance, 'six days ago', a different, sequential structure would be used.

5.2.4.2   Time of day

- Hours and clock time

In UgSL, clock time can be signified in three different ways, one of which permits numeral incorporation.

The first way of signing clock hours involves pointing at the wrist of the non-dominant hand, then expressing the number of the hour, e.g. in (5-26):

(5-26) TIME **THREE1**
        '3 o'clock'

The 12-hour clock is used in UgSL, rather than the 24-hour clock. In order to distinguish between ante-meridian (a.m.) and post-meridian (p.m.) time, reference can be made to a celestial timeline (see Section 4.5.5 in Part II).

The second method uses numeral incorporation. These signs begin with the number on the dominant hand making contact with the wrist of the non-dominant hand, and then moving upwards in a quick, straight action. However, this can only be used for the clock hours between one o'clock and five o'clock.[32]

The third method can be used for any clock hours, including those that cannot be signed using numeral incorporation. This involves a lexical sign meaning 'o'clock.' The number of the hour is signed, and followed by this separate lexical sign, which may be glossed ZERO-ZERO, where each zero represents a zero on a digital clock (for example 4:00).

This sign is not the same as signing ZERO twice on the dominant hand, as it involves using the '0' handshape on both hands, and moving both hands across the signing space simultaneously. However, the non-manual features of ZERO-ZERO and ZERO are the same, a mouth gesture <oo>.

_____<oo>

(5-27) TEN **ZERO-ZERO**

'10 o'clock'

To show quarter-hours, the numbers may be signed left to right, with a 'colon' sign between the hours and minutes, e.g. EIGHT COLON FOUR FIVE '8:45', reflecting the display of many digital clocks and watches. Alternatively, quarter-hours can be signified using the signs QUARTER-TO ('quarter to the hour', e.g. in 8:45) or QUARTER-PAST ('quarter past the hour', e.g. in 8:15), which reflects the traditional clock and is not expressed using numerals.

In addition to clock time, UgSL has numeral incorporation with the sign HOUR (see Figure 5.15), indicating the length of time in hours, e.g. a duration of three hours. For this sign the dominant hand, indicating the number of the hour, is

_____

[32] In addition, the sign SEVEN can be incorporated or fused with the sign TIME, so that a signer can indicate 'seven o'clock' by touching the wrist with index finger of the '7'-handshape. However, this phenomenon was rare in the data.

placed on the wrist of the non-dominant hand (where watches are usually worn). Then the dominant hand, still in the shape of the numeral, moves in a circular motion, reflecting the rotation of watch hands. However, only the numerals from one to nine participate in numeral incorporation in this way. It is ungrammatical (and phonologically impossible) to use numeral incorporation to sign 'ten hours' and higher numerals.

Figure 5.15: The sign HOUR

(UgSLD picture sign: 1820, Wallin et al. 2006)

5.2.4.3 Monetary values: SHILLING and COIN

Money signs in UgSL have always been iconic, and have been influenced by a series of changes to the monetary currency in Uganda. Prior to the 1960s, only shilling coins were used (the sign for 'shilling' – COIN – is shown in Figure 5.16).

Figure 5.16: The signs SHILLING and COIN

(UgSLD picture sign for COIN: 1834, Wallin et al. 2006)

In order to show different amounts of money, numeral incorporation was used, as the dominant hand of the sign was changed to show the number of shillings

(for example COIN#ONE, COIN#TWO). There was probably a limit of five shillings (COIN#FIVE), after which numeral incorporation was no longer used (for example SHILLING SIX).

From the 1960s to the 1990s, both paper money and coins were in circulation, so there were signs for both. The sign for paper money (also shown in Figure 5.16) did not use numeral incorporation, while the sign for coin continued to incorporate numerals.

Around 1990, coins were made obsolete, as their denominations were too small due to repeated devaluations by the Ugandan government, aimed at stabilising the economy. The numeral-incorporating COIN sign was no longer used in UgSL.

However, in 2005 coins were reintroduced alongside notes, albeit in larger denominations (50, 100, 200, and 500 shillings). The modern sign for 'coin' uses the same sign as before, but numerals are no longer incorporated. For example, '500 shillings' is signed COIN FIVE ZERO-ZERO.

The sign THOUSAND, and numeral-incorporated forms that include this sign (such as SEVEN#THOUSAND '7,000'), are also commonly associated with money, as mentioned in Section 5.2.4.3 above.

5.2.4.4   Other numeral-incorporated forms

As mentioned, UgSL makes use of numeral incorporation for an array of forms, like many sign languages do. Two numeral-incorporated forms that have not been covered so far in this chapter are FLOOR and GRADE.

In some languages like English, ordinal numbers are used for floors of buildings (for example 'the third floor'). In UgSL there are two options: sometimes the number of the floor is incorporated; for example, a THREE handshape moves in a horizontal line in the relevant section of the sign space (THIRD-FLOOR); alternatively, the floor is described in the form FLOOR THREE, using a cardinal number.

The numeral-incorporated signs FIRST-FLOOR, SECOND-FLOOR, and so on, up to NINTH-FLOOR,[33] are placed higher or lower in the signing space depending on their number (e.g. FIRST-FLOOR is low in the signing space, while NINTH-FLOOR is the highest).

Ordinal numerals can also be placed in different locations to show exam/degree classifications and scores of football divisions, e.g. the score for division one will be placed highest in the signing space, with the scores for division two and three underneath (see Figure 5.17). Example (5-28) shows the sign GRADE with numeral incorporation in context.

(5-28) LEARN TEACHER GET CERTIFICATE **THREE2#GRADE**

'I became a qualified teacher by getting the grade three certificates.'

Figure 5.17: The sign GRADE

(UgSLD picture sign: 914, Wallin et al. 2006)

5.3 Other numeral series

5.3.1 Ordinal numerals

The ordinal numbers from FIRST 'first' to NINTH 'ninth' in UgSL are articulated by making the handshape for the relevant number, and moving the hand rapidly from a palm-outward to a palm-inward orientation, by twisting the wrist (see Figure 5.18). Note that, for the sign FIFTH, either the FIVE1 or the FIVE2 handshape may be used.

---

[33] A numeral-incorporated sign *TENTH-FLOOR is not available in UgSL, because the sign TEN is made up of closed fists.

Figure 5.18: The sign FIRST

(UgSLD picture sign: 951, Wallin et al. 2006)

Ordinal numerals are produced by UgSL users, for example, to indicate the birth order of siblings ('I am the third child'), a position in the results of an exam ('She was first!'), or an order of arrival ('You arrived first'). In these situations, the ordinal numeral is unlikely to be more than NINTH.

If the ordinal number is larger than nine, this is signed using a cardinal number that is preceded by TOP, as in example (5-29):

(5-29) AFRICA COUNTRY-$_{PL}$ PEOPLE MANY LIST CAMEROON **TOP** ONE
 SIX
 'Cameroon is the sixteenth most populous country in Africa.'

Like cardinal numerals, ordinal numerals in UgSL usually follow the nominal sign that they modify, as shown in example (5-30), which contains a cardinal numeral, and examples (5-31a) and (5-31b), which contain an ordinal numeral.

(5-30)   BROTHER **ONE**
    'I only have one brother.'

(5-31a)   BROTHER **FIRST** WEDDING FINISH
    'My eldest brother is married.'

(5-31b)   BROTHER **FIRST** STUDY FINISH
    'My eldest brother has completed his studies.'

An alternative way to express ordinal numerals is used in the context of enumeration. UgSL uses 'list buoys' for enumeration, which refers to the phenomenon of listing items, discussion points, people, etc., usually by pointing

163

with the index finger of the dominant hand to the fingers of the non-dominant hand (see Liddell 2003).

Sometimes, signers begin the enumeration by pointing to the index finger first, as would be expected due to the normal articulation of cardinal numerals in UgSL. However, it is also possible to begin the enumeration by pointing to the little finger (the pinky). The enumeration can therefore move from index finger to pinky or vice versa. The thumb does not appear to be used for enumeration in list buoys in UgSL.

The non-dominant hand may be held in space while the dominant hand is used to sign the item in question. However, if both hands are needed to sign the item, it may not be possible to hold the non-dominant hand in this way. In the latter case, the non-dominant hand is re-constructed when referring to the order of each item.

The following is an example from the UgSL data:

(5-32) l: **BUOY-**IX------   **BUOY-**MID----------

      r: DH: **BUOY** ORAL SCHOOL   **BUOY**

      'First, an oral school, and second....'   (Uga_KCa.eaf00:04:19-25)

5.3.2 Double, triple and quadruple

The handshape of DOUBLE is the same as that of TWO, but the sign has a different orientation and movement (see Figure 5.19).

Figure 5.19: The sign DOUBLE

(UgSLD picture sign: 1023, Wallin et al. 2006)

DOUBLE has two meanings in UgSL, one literal and one metaphorical or idiomatic. Firstly, it can mean twofold in size, number, amount, etc., as it does in English (see example 5-33).

(5-33) MONEY **DOUBLE**

'Twice the amount of money'

However, it also appears to be part of a fixed idiomatic phrase, meaning something akin to 'far greater in extent', especially when used in the context of work, as in example (5-34):

(5-34) PALM-UP BOSS $_2$GIVE$_1$ WORK **DOUBLE**

'Goodness, my boss has given me far too much work.'

In this instance, the meaning is not 'twice the amount of work', but 'far too much work'.

This numeral series expresses double, triple and quadruple using the TWO, THREE and FOUR handshapes, but higher numerals are not used in this series. Only the sign DOUBLE has a metaphorical meaning. Since DOUBLE appears at the end of the clause in utterances such as (5-34), the sign is possibly a number particle, just as the Latin words *semel* 'once' and *bis* 'twice' are numeral particles.

The 'double' concept is also employed with dual classifiers, such as the flat hands meaning 'two beds'; this is discussed in Section 5.1.5 on plurality in classifiers.

5.3.3 Collective numerals

Another numeral series expresses the notion of a number of entities being considered together. With reference to two entities, the sign glossed as TWO-TOGETHER means 'pair', 'double', or 'two things as one'. The sign begins with the TWO handshape (in the usual vertical orientation), but the extended fingers are then pressed together (see Figure 6.6 in Chapter 6 on pronouns). This form is part of a paradigm that includes the THREE1, FOUR and FIVE1 handshapes for expressing 'three/four/five together'. As the entities in question are being considered 'as one', this numeral series is labelled 'collective' here. Figure 5.20

shows the sign TWO-TOGETHER in a two-handed combination, where the collective numeral is itself in a dual form.

Figure 5.20: The sign TWO-TOGETHER$_{3\text{-}DUAL}$

5.3.4 Restrictive numerals

Restrictive numerals in UgSL include ONE-ONLY 'only one' and TWO-ONLY 'only two' (see Figure 5.21). Emphatic forms in this series have a negative facial expression and a 'th' mouth gesture. This mouth gesture is also seen with forms in other grammatical categories, where it frequently indicates a small size or small amount. Restrictive numerals can include numbers up to four. As yet, there is not much literature on restrictive numerals in sign languages (cf. Zeshan et al, forthcoming), and these forms appeared relatively rarely in the data. As might be expected, restrictive numerals indicating 'only one' or 'only two' were more frequent than those for 'only three', 'only four', etc.

Figure 5.21: The sign ONE-ONLY

5.3.5 Distributivity in numerals

Distributive forms are those which show separation or allocation among people or locations, and distributive numerals are a numeral series that some languages use to express the allocation of different quantities to various recipients or places (see Gil 2005a). In UgSL, the numbers from 1-9 can be

used as distributive numerals by repeating them in different locations, meaning, for instance, 'two each', 'three each', and so forth. Only one-handed numerals participate in the distributive series. For distributive numerals a signer may use one hand only or two hands simultaneously, sometimes with one hand held still as a buoy while the other performs two or more numerals in succession.

It is obvious that this expression of distributivity in numerals is identical to the distributive pluralisation discussed in Section 5.1, which has been shown to be used equally with the three main open sign classes and with the closed sign classes of classifiers, pronouns and numerals. Moreover, signs from the other numeral series, that is, ordinal, collective and restrictive numerals and those from the 'double' series, can also receive distributive morphology. Therefore, it is also possible to consider the application of distributivity to all numeral series as a separate morphological process, in the same way that distributive morphology applies to other sign classes. This is an alternative to saying that UgSL has a series, or rather several series, of distributive numerals.

5.4   Quantification in UgSL

5.4.1   Quantification with numeral signs

A cardinal numeral sign may follow a noun to express quantity in UgSL, as mentioned in Section 5.1 above. Any variant of a cardinal numeral sign can appear in such constructions; e.g. in example (5-35) below, either THREE1 or THREE2 may be used to modify HOUSE.

(5-35) HOUSE **THREE1**

'Three houses'

Word order in noun phrases involving numerals is somewhat flexible in UgSL, but the data reveal that most of the time, the numeral appears after the nominal sign it modifies.

According to Mohamed (2001:67), the Swahili language has numerical adjectives (adjectives of quantity), which state a number of items or persons in specific terms, for example in (5-36a) below (ibid). In both Swahili and Luganda (see 5-36b), the numeral or numerical adjective, here *sita* 'six', follows the noun

being modified, perhaps because these languages are in the same family (Bantu). UgSL has a similar grammatical structure (see 5-36c).

(5-36a)   *viziwi sita* ('Six deaf persons')   in Swahili

(5-36b)   *Kiggala sita* ('Six deaf persons')   in Luganda

(5-36c)   DEAF SIX   in UgSL

            'Six deaf persons'

The word order Noun-Numeral is consistent across various expressions of measurement too, such as length, weight, and volume.

5.4.1.1   Length

Examples (5-37) and (5-39) show uses of the sign LENGTH followed by a lexical number sign, to show how many 'metres', 'kilometres', 'feet', etc (see Figure 5.22).

Figure 5.22: The sign LENGTH

(UgSLD picture sign: 1979, Wallin et al. 2006)

_____<ft>
(5-37) SN: FRANCIS TALL **LENGTH SIX**

        'Francis is six feet tall.'

For length, the hands move away from each other on the horizontal plane, whilst for height they move on the vertical plane, and for distance (e.g. miles) one hand is held in position by the signer's chest while the other moves away from the signer. For unspecific lengths, the LONG sign is accompanied by a non-manual feature <fa>:

        ____<fa>
(5-38) SNAKE **LONG**

        'The snake is very long.'

168

Unspecific distances may be indicated with signs FAR and NEAR, and heights with the signs TALL or SHORT. Example (5-39) below shows how unspecific and specific lengths can be referred to in the same sentence.

<pre>   ___<fa>_____<ft></pre>
(5-39) SNAKE LONG **LENGTH SIX**

'The snake is very long, about six feet.'

5.4.1.2   Weight

UgSL expresses weight lexically using the sign WEIGHT, which is followed by a number or amount. The unit of measurement that WEIGHT refers to is usually inferred from the context, but it often refers to kilograms, as in (5-40).

(5-40) MAN PRO$_3$ **WEIGHT SIX FIVE1**

'That man weighs sixty-five kilograms.'

5.4.1.3   Volume

Food in Uganda is measured by volume, so UgSL uses different partitive signs such as HEAP and SACK to discuss amounts of food. These signs may show plurality through repetition, and are commonly followed by a number sign to show the number of units, as in examples (5-41) to (5-43) below. Alternatively the volume sign may be accompanied by a non-manual feature to give an indication of the amount.

(5-41) MATOOKE: green banana **HEAP$_{++}$** FOUR

'Four heaps of green bananas'

(5-42) MATOOKE: green banana **BUNCH** ONE

'One bunch of green bananas'

(5-43) MATOOKE: green banana **CLUSTER** ONE

'One cluster (i.e. cluster of bunches) of green bananas'

5.4.1.4   Million

The sign MILLION consists of three extended fingers together placed on the cheek. Numeral incorporation is not possible for units of a million: MILLION is

an uninflective lexical sign which cannot incorporate different handshapes or movements (see Figure 5.23).

Figure 5.23: The sign MILLION

(UgSLD picture sign: 545, Wallin et al. 2006)

Unlike other signs for units, MILLION can appear before or after its numerical referent; for example, 'five million' can be signed MILLION FIVE2 or FIVE2 MILLION. A number such as '5,002,439' would be signed FIVE1 MILLION ZERO ZERO TWO THOUSAND FOUR THREE NINE.

It is important to remember the context in which numerals are used. For example, numerical values greater than a million are not used in most everyday situations, but may be used when talking about population (as in example 5-44) or money, or in specific semantic fields, such as distances between stellar bodies in space.

(5-44) UGANDA PERSON-$_{PL}$ **THREE2 FIVE1 MILLION**

'Uganda has 35 million people.'

For paper money, no sign is used to indicate denomination. Meaning is inferred from the context of the utterance. For example (5-45):

(5-45) MAN PRO$_3$ BANK **FIVE2 MILLION** STEAL

'The man stole five million shillings from the bank.'

5.4.2 Quantifiers

UgSL has a substantial number of quantifiers, most of which occur several times in the data corpus. Although a complete analysis of the quantifier system in UgSL is not possible within the scope of this thesis, some interesting observations regarding the semantics and quantifiers are presented in the following sub-sections.

170

5.4.2.1 Quantifiers for larger quantities

To indicate larger quantities, UgSL has at least the following quantifiers, given here with their approximate English translations:

NUMBER   'many'

ALL   'all'

F-ALL   'all, everyone'

MORE   'many, a lot, more, very'

FULL   'full, exhaustive, many, too much'

The sign NUMBER 'many' (see Figure 5.24), which may be accompanied by the mouth gesture <mana>, is used in examples sentence (5-46) and (5-47) below.

                        ____<mana>
(5-46) WOMAN BEAUTIFUL **NUMBER**

'There are many beautiful women.'

             _____<mana>
(5-47) HOUSE **NUMBER**

'Houses' or 'There are many houses.'

This sign is used to refer to both human and non-human entities, and the same sign is used as an interrogative of quantification, in which case the sign is accompanied by interrogative non-manuals (see Section 7.2.3 in Chapter 7).

Figure 5.24: The sign NUMBER

(UgSLD picture sign: 765, Wallin et al. 2006)

171

UgSL has two different signs for indicating exhaustive 'all'. The sign glossed ALL (see Figure 5.25) mainly occurs with human referents in the data, as in example (5-48), but it can also occur with other types of entities.
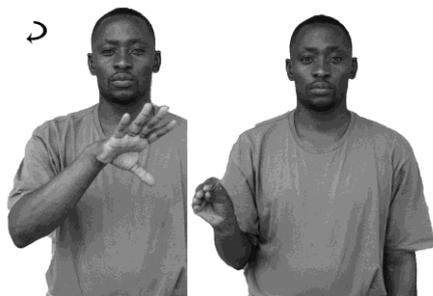
Figure 5.25: The sign ALL

In example (5-49), the signer has been talking about the fact that sign languages vary and are not all the same, and in the example, ALL refers to the entity SIGN-LANGUAGE in the preceding utterance.

(5-48) MONITOR PROGRAM FOR **ALL**

'We monitor the programme for all (people).' (Ug_lauc1_debbie.eaf00:03:11-3)

      _____hs

(5-49) **ALL** EQUAL

'(The sign languages) are not all equal.'   (Ug_lauc1_debbie.eaf00:01:08-9)

By contrast, the sign glossed F-ALL, which has an F-handshape moving in a half-circle in front of the signer's torso (see Figure 5.26), can only be used with human referents, as shown in examples (5-50) and (5-51).

Figure 5.26: The sign F-ALL

(5-50) TEACHER **F-ALL** SIGN-FLUENCY

'The teachers all sign fluently.'   (Uga_lule_akomele2.eaf00:05:59-06:00-2)

(5-51) FIND UGLY **F-ALL**

'I found that they are all ugly.' (said in the context of a man trying to ROPE-IN women and being disappointed by his 'catch')

The sign FULL is often used to refer to containers that are full to capacity, for example a glass full of water, but it also expresses large quantities in general, including the concept of 'too much' (see Figure 5.27 and the captions provided in the UgSL Dictionary).

Figure 5.27: The sign FULL

(UgSLD picture sign: 1364, Wallin et al. 2006)

This sign has several variants. In addition to the variant shown in Figure 5.27, which involves one movement ending in contact between the palm of the dominant hand and the top of the non-dominant hand, movement may slide sideways across the non-dominant hand, either once or twice.

FULL is used primarily to quantify entities, as shown in the following examples (note the semantic difference in the translation equivalents in English):

(5-52) TAXI DEM-$_{IX+z}$ SEAT **FULL**

'The passenger seats in that taxi are full.'

(5-53) MOSQUITO **FULL** DEM-$_{IX+u}$

'There are so many mosquitos there.'   (Uga_mulesa_akol.eaf 00:01:36-7)

(5-54) PRO$_2$ $_1$TEACH$_3$ **FULL** BADO / BECAUSE STUDENT MISS MORE

'You have not taught fully/completely yet; that's why the students have missed a lot.'

(5-55) PRO$_2$ LEARN **FULL** BADO

'You have not learnt this fully yet.'

Finally, a particularly interesting quantifier is the sign glossed MORE (see Figure 5.28). This sign can occur with the largest variety of sign types, which is reflected the fact that it has a larger number of translation equivalents then the other quantifiers discussed in this sub-section.

Figure 5.28: The sign MORE

The following are examples in the data corpus:

(5-56) CAN GET **MORE**

'(You) can get more (money).' (Ug_amuge_amongi.eaf00:03:09-11)

(5-57) $_1$LOOK$_2$ SIGN BUT **MORE** ORAL

'I could see (some) sign language (in the deaf school), but it was more oral.'

(Ug_int_max.eaf00:03:26-9)

(5-58) THANKS **MORE** SAME PRO$_1$ FEEL PROUD

'Thanks a lot, I feel proud.' (said at the occasion of the launch of the UgSL Dictionary) (Ug_lauc1_debbie.eaf 00:04:28-30)

In (5-56), MORE is used to quantify the entity 'money', which is recoverable from the context. With reference to concrete entities, MORE also means 'many', as in PEOPLE MORE 'many people'. In (5-57), MORE refers to the abstract entity of oral communication, while in (5-58), MORE is used to emphasise THANKS.

When MORE is with verbal or adjectival concepts, it can be translated as 'a lot' or 'very', as in the following examples:

(5-59) PERSON POOR BUT GIVE **MORE**.

'The person is poor, but gives a lot.'

(5-60) PRO$_3$ RICH **MORE**

    'S/he is very rich.'

At times, reference of MORE can be ambiguous; for instance, TEACH MORE could mean 'teach a lot' in terms of the hours, duration or amount of the teaching activity, or it could mean 'teach a lot' in terms of the content, lessons, or material that is being taught. As exemplified in (5-60), MORE together with an adjectival concept is equivalent to 'very' in English. It can be used not only where some quantity is implied (e.g. being 'very rich' implies having 'a lot of money'), but also where no such implication is evident, as in CLEVER MORE 'very clever', or TIRED MORE 'very tired'.

5.4.2.2   Quantifiers for smaller quantities

For talking about smaller quantities, the following quantifier signs have been found in the data corpus, again given with the approximate English translations:

TONO1   'few, too few, less than expected, too little'

TONO2   'few, a little, a bit'

TONO3   'a little, a bit, small quantity'

HALF/SOME 'some, half, a partial amount'

In UgSL, there are two ways to convey the notion of 'half'. The sign HALF1 is used when discussing weights, while HALF/SOME is used for all other contexts (see Figure 5.29, and example sentences 5-61 and 5-62).

Figure 5.29: The sign ONE+HALF1and HALF/SOME

(UgSLD picture sign: 229 and 1218, Wallin et al. 2006)

(5-61) KILO SUGAR **ONE HALF1**

    'A half kilo of sugar'

(5-62) ORANGE **HALF/SOME**

   'Half of the orange'

In UgSL, the same sign is used to denote both 'half' and 'some'. In example (5-63), the signer is talking about communication within the family. The intention here is to express that the family members partially use signs or gestures, so the interpretation 'some' is more likely.

(5-63) FAMILY **HALF/SOME** MORE SIGN-LANGUAGE TRUE OKUGAANA/ GESTURE

   'Some in the family (seem to) use more sign language, but that is not really true; it is gesture.'   (Ug_int_max.eaf00:02:24-8)

HALF/SOME occurred only rarely in the data corpus, and it is not clear at this stage whether the sign can be used with other types of entities, or with adjectival or verbal concepts.

In addition to HALF/SOME, UgSL has three other signs that can all refer to small quantities. These are glossed TONO1, TONO2 and TONO3, following the Luganda word that is strongly associated with these signs.

TONO1 (see Figure 30) is used with reference to both animate and inanimate entities. The main difference between this sign and the other two semantically similar signs is that TONO1 carries a sense of insufficiency, indicating a number/amount less than the signer expected. For example, a signer might say TAXI GET-IN TONO1, which means '(I was surprised that) not many people got in the taxi'. In this sentence and many other contexts, TONO1 and TONO2 would both be grammatically correct, though they indicate slightly different meanings. There can also be a sense of disappointment associated with this sign, as in PEOPLE TONO1 'too few people' or FOOD TONO1 'too little/not enough food'.

Figure 5.30: The sign TONO1

(UgSLD picture sign: 758, Wallin et al. 2006)

It may be due to this semantic connotation of 'less than expected' that the sign TONO1 is used particularly with reference to the past and the present. This makes sense because the sign's meaning includes a previous expectation, which does not occur so naturally with respect to future events.

The sign TONO2 (see Figure 31) is parallel to the sign MORE discussed in the previous sub-section in that can occur with a particularly wide range of sign classes. This is illustrated in the examples (5-64) to (5-68), from the data corpus and from introspection.

Figure 5.31: The sign TONO2

(UgSLD picture sign: 955, Wallin et al. 2006)

With inanimate entities, TONO2 occurs in these examples from the data corpus:

(5-64) RESIGN WHY BECAUSE SALARY **TONO2**

'I resigned because the salary was too little.'   (Uga_KCa.eaf00:13:40-4)

(5-65) DEX-$_{IX}$ UGANDA SITUATION SCHOOL **TONO2-$_{DISTR}$**

'The situation in Uganda is that there are quite a few (deaf) schools around.'   (Ug_lauc1_debbie.eaf 00:01:28-32)

Interestingly, TONO2 in these two utterances is used with opposite evaluative connotations. In (5-64), the situation of having a low salary is clearly a negative (in fact, TONO1 could well have been used here). By contrast, the signer in (5-65) is talking about the fact that deaf schools do exist here and there in Uganda, so that the situation is seen in a more positive light.

TONO2 can also be used with adjectival concepts, in which case the quantifier indicates 'a little bit of quality/property X', as in the following example:

$$\underline{}br\underline{}sq$$

(5-66) PRO$_1$ RICH **TONO2** / FIRST BUY MOTORBIKE

'If I get a little bit rich, I will first buy a motorbike.'

Finally, TONO2 can be used with verbal predicates to indicate that an activity is being carried out to a minor extent only, as in these examples:

(5-67) TEACHER SIGN **TONO2**

'The teacher signs a little.'

(5-68) PRO$_1$ WORK **TONO2**

'I work a little bit.'

The last sign denoting a small quantity in UgSL is TONO3, which consists of indicating a small amount in between the extended thumb and index finger. The distribution of this sign is not yet clear from the data, as its occurrence was rare in the corpus. The following two examples are from the same signed text:

(5-69) REQUEST SN:FRANCIS CAR $_3$GIVE$_1$ **TONO3** B-CL-PRON-DRIVE-REVERSE

TONO3

'I requested Francis to give me the car, and to reverse it a little.'

(Ug_int_max.eaf00:04:25-8)

(5-70) AGAIN CAR REQUEST **TONO3**

'Again I requested (to have) the car for a little bit.'

(Ug_int_max.eaf00:04:29-30)

Further research is needed in order to ascertain where exactly the semantic differences and differences in distribution lie with respect to these three signs, but it is clear already from the data presented here that quantifiers in UgSL show subtle differences in meaning and usage. This is true of indicating both small and large quantities.

5.5   Idioms in the number domain

UgSL has a large number of idioms, some of which include the use of numeral signs, in particular the cardinal numeral ONE. As mentioned above in Section 5.3.2, the sign DOUBLE is also used with an idiomatic meaning.

Signers commonly use the fixed phrase PROBLEM ONE. At first glance, this may appear to be a nominal sign followed by a cardinal numeral, but

178

contextually ONE functions more like a determiner (as in 'the problem' or 'a (specific) problem') rather than a numeral. Therefore, it is highly unusual to follow PROBLEM ONE with PROBLEM TWO. If there are two problems, enumeration would usually be used for this (see Section 5.3.1 above). Instead, PROBLEM ONE simply means, 'There is a problem', or 'I am going to tell you about a problem.'

There are two other similar phrases: POINT ONE, which means 'Please stick to the point!' and PICK ONE. The latter phrase is frequently uttered in situations where signers are discoursing on (too) many topics at the same time: someone signing PICK ONE often means 'Let's focus on one thing at once' or 'Which one of all these issues do you want to focus on?' It is highly unusual to sign POINT TWO or PICK TWO in these contexts. The following is an example from the data of how this phrase is used:

$$\underline{\hspace{3cm}sq\underline{\hspace{1.5cm}}br}$$

(5-71) PRO$_2$ PRO$_1$ **PICK ONE** DEAFNESS PRO$_2$ PROBLEM WHAT

'Whose experiences of deafness do you want to talk about, mine or yours?' (Uga_KCa.eaf00:06:46–50)

5.6 Conclusion

This chapter has covered an array of numerical forms and structures found within UgSL. So far, it seems notable that UgSL has an array of different numeral series. It is not clear yet whether enumeration with list buoys constitutes a numeral series or not, because list buoys are also a device used in discourse to list or keep track of the items or topics being discussed.

In UgSL, for numerals involving more than one morpheme, two morphological means are used, compounding (e.g. in TEN+ONE '11'), and numeral incorporation (e.g. TWO#THOUSAND '2,000'). It is also notable that UgSL makes use of a digital numeral system, e.g. signing the separate digits TWO ONE for '21'.

With respect to both pluralisation and the occurrence of some quantifiers in UgSL, it can be observed that number and quantification cut across various sign classes in UgSL. The data summarised in Table 5.1 indicated that various open and closed sign classes do not correlate in any straightforward way with

morphological means of pluralisation. Therefore, plural morphology is not a good indicator of sign classes in UgSL. The same notion is reinforced by the patterns observed with respect to quantifiers. Several quantifiers including MORE, FULL and TONO2 can be used with more than one of the three open semantically-based sign classes (nominal, verbal and adjectival signs). Other quantifiers have co-occurrence restrictions within a sign class, such as the restriction on F-ALL to occur only with human referents. The relationship between sign classes and the grammatical domain of number and quantification deserves more in-depth study, in particular in order to determine whether the patterns found in UgSL are specific to this sign language, or can be found in other sign languages too.

6 PRONOUNS

This chapter considers the great variety of pronouns that exist in Ugandan Sign Language. To set the scene, first the nature of pronouns in both signed and spoken languages is considered in Section 6.1, after which each pronoun series in UgSL is examined in detail (Sections 6.2 – 6.8). Conclusions from these observations are drawn in Section 6.9

Section 6.2 describes the personal pronouns in UgSL, and the remaining sections of this chapter give an account of other pronoun series in UgSL, including demonstratives (Section 6.3), pronouns indicating specificity (section 6.4), honorific pronouns (section 6.5), and several types of emphatic pronouns (section 6.6), and possessive pronouns (section 6.7).

Some spoken languages exhibit a range of politeness distinctions in their pronominal systems (Helmbrecht 2005), and sign languages such as UgSL also have honorific pronouns, which are discussed in 6.5. A group of UgSL emphatic pronouns has been identified, and in addition to a neutral emphatic (Section 6.6.1), these indicate exclusivity (6.6.2), a pejorative connotation (6.6.3) and the notion of responsibility (6.6.4). Possessive pronouns are discussed only briefly (Section 6.7), as these are explained more fully in Chapter 9. Finally, Section 6.8 looks at reciprocal pronouns in UgSL.

6.1 Introduction to pronouns

6.1.1 Defining pronouns

A pronoun is a form that 'stands for a noun' (Latin *pro-nomen,* Greek *pro-anto-numia* 'for noun'), but this definition is far too superficial and general, as noted in Bhat (2004:1-4), who discusses the difficulties of assigning all supposed 'pronominal' forms in various spoken languages to a single natural class, discussing notions such as pronouns being shorthand expressions and avoiding repetition. In particular, the notion of pronouns having 'low semantic content' (Bhat 2004:3, following Wales 1996:1) is useful in considering personal pronouns in sign languages. The same concept is mentioned in Siewierska (2004:9), who states that:

although pronouns are used to refer to individuals and entities, the identity of their referents can be determined only by the extralinguistic context (for first- and second-person forms) or typically the linguistic context (for third-person forms) or inferentially. This referential deficiency distinguishes them from both proper nouns… and common nouns.

The index finger pointing forms, used in personal pronouns in UgSL, certainly match these criteria as they are used for reference and need some kind of context to be interpretable. Taking pronominal index finger pointing as the starting point, the other UgSL pronominal series have been identified because they all have a significant family resemblance with pronominal index finger pointing: signs from all pronominal series point towards locations in space (spatial loci), including the signer's body and locations away from the body, in order to refer to entities. For example, in Table 6.1 (6.1a-d), all signs point away from the signer and the main difference is in the handshape, and sometimes in the details of the directional movement.

6.1a		6.1b	
	The sign PRO_2		The sign $PRO_{3\text{-NEUT}}$
6.1c		6.1d	
	The sign $PRO_{3\text{-RESP}}$		The sign $PRO_{3\text{-PEJ}}$

Table 6.1: Pronominal series in UgSL

Pointing, in particular index finger pointing, is ubiquitous in sign languages. For instance, de Vos (2012:360) has ascertained with respect to the rural sign language Kata Kolok from Bali that 15% of all signs are pointing signs. In sign language linguistics, pronominal pointing has been studied from a wide variety

182

of perspectives. Various authors (Lillo-Martin 1986; Aarons, Bahan, Kegl, & Neidle 1992; Bahan 1996; Bahan, Kegl, Lee, MacLaughlin & Neidle 2000) have looked at syntactic phenomena associated with pointing. In McKee & Wallingford (2011), pronominal pointing is investigated in the framework on variationist sociolinguistics, identifying under what conditions pronoun points are expressed overtly or dropped with first, second or third person reference. Petitto (1987:5-7) discusses the acquisition of pronominal pointing in ASL. In this study, which was based on two deaf children, her findings have shown that despite the iconicity of index finger pointing, young ASL-using children undergo the same developmental stages including the same developmental errors as children learning spoken English. This is important evidence for the linguistic status of ASL pronouns. Nevertheless, comparisons between index finger pointing and gestures used by speakers of spoken languages are still pertinent. Schembri & Johnston (2012) state that the difference between hearing people's co-speech gestures and the pointing in sign languages in the literature is not clear.

Liddell (2003) argues that some aspects of the pointing in signed languages is similar to that used with spoken languages, i.e. it is gestural. In Liddell's view, spatial loci (points in space) are not grammatical elements. Rather, signers direct their pronouns (or indicating verbs) to actual present referents, or to absent referents which they 'imagine' are there (Liddell 2003:375). However, despite some similarities in the form of individual pointing signs/gestures, there are also important differences between pointing in sign languages and spoken languages. Hearing gesturers typically co-use speech and pointing gestures, while signers use the manual channel only. Discussing early language development in young children, Wales (1996:51) mentions that speakers often use words with their gestures for greater clarity, while signers encapsulate the entire meaning in the pointing. It also seems that a wider range of functions is performed by pointing in sign languages compared with pointing gestures. Most importantly, unlike gestures used by speakers, pointing in sign languages is embedded in a grammatical system, for instance having language-specific regularities and paradigms of pronominal forms.

The concept of the *locus* (plural *loci)* is important in discussing the nature of sign language pronouns, but the definition of this concept has proved to be a

matter of some debate. Lillo-Martin & Klima (1990:192) define a locus as a point in space that has a referential function. Kegl (2000:246) asserts that pronouns are established in a similar way in signed and spoken languages; she explains that the relationship between a spatial locus and a noun phrase in ASL is similar to that between an English noun phrase and pronoun marked for properties such as gender and number.

Liddell (2000:305) shows how 10 different publications on the spatial properties of signs have defined the term 'loci' in as many as seven different ways, ranging from 'loci are pronouns' (Fischer 1975) to 'either locative or non-locative agreement controllers' (Janis 1995) and 'points in space that correspond to complexes of phi features' (Bahan 1996). The definition used here will be that of Liddell & Johnson (1989): loci are 'phonologically describable points in the signing space that serve as places of articulation for signs', with the additional proviso that loci also serve a grammatical function in one way or another, an aspect which is implicit in many of the other more technical definitions. This definition of 'loci' is preferred here because is relatively descriptive and not coloured by heavy theoretical frameworks.

In this chapter, pronominal pointing is regarded as linguistic, because a distinction between linguistic and gestural elements is not relevant or useful for the purpose of the analysis. Rather, the main aim of discussing UgSL data on pronouns is to identify their linguistic properties and in particular their language-specific regularities, which show important typological differences between UgSL and other known sign languages. Despite the sometimes contentious definition of pronouns in spoken languages mentioned above, possibly identifying pronouns in sign languages is made easier by virtue of the strong family relationship whereby all pronominal signs index locations in signing space. This is evident in the UgSL data discussed in Sections 6.2-6.8.

6.1.2 Function of pronouns

Pronouns create text coherence by referring back to a noun or noun phrase. According to Croft (1990), reference is one of three central linguistic functions in language alongside predication and modification, and reference is aligned with nominal (or pronominal) expressions.

When used as a referring expression, a pronoun often agrees in number, person and/or gender with its antecedent. The antecedent is the noun or noun phrase that a pronoun refers to. For example, in (6-1), *Bonnie* is the antecedent of *she* and *Sam* is the antecedent of *him.* For the former, the pronoun is feminine because the antecedent is feminine, and the pronoun for the latter is masculine because the antecedent is masculine (see below information on gendered pronouns in Asian sign languages).

 (6-1) *Sam was talking to Bonnie. She explained grammar to him.*

Pronominal pointing in sign languages fulfils a parallel function in establishing co-reference.

As mentioned in Section 6.1.1, pronouns by definition have 'low semantic content' and 'referential deficiency'. Therefore, the question is pertinent as to how pronominal reference can be disambiguated in a language. Consider, for instance, the English sentence in example (6-2a), which has the two ambiguous interpretations (6-2b) and (6-2c).

(6-2a) *Ben bumped into Paul, and he fell.*

(6-2b) Ben bumped into Paul, and Ben fell.

(6-2c) Ben bumped into Paul, and Paul fell.

In English, it is not clear from (6-2) who fell, as the pronoun *he* is ambiguous. Other languages have specific disambiguation devices, one of which is switch-reference. Usually, switch-reference involves a verbal inflection that indicates whether, across two clauses, reference is made to the same subject (SS) as in the preceding clause, or to a different subject (DS). Bhat (2004:84) cites an example of switch-reference from Austin (1981:316) from the Australian language Diyari. A verbal suffix indicates 'same subject' or 'different subject' reference:

(6-3a) *nhulu   nganthi   pardakarna   warrayi   thanali thayi-lha*

     He   meat   brought   Aux   they eat-Implicated (SS)

     'He brought meat for them (i.e. him and others) to eat'

(6-3b) *nhulu   nganthi   pardakarna   warrayi,   thanali thayi-rnanthu*

      He   meat   brought   Aux   they eat-Implicated (DS)

      'He brought meat for them (others) to eat.'

In other words, a Diyari speaker can disambiguate the sentence equivalent to (6-2) above in the following way, using the two different verbal suffixes:

(6-4a) Ben bumped into Paul, and he fell-*suffix for same subject*

      Interpretation: Ben fell.

(6-4b) Ben bumped into Paul, and he fell-*suffix for different subject*

      Interpretation: Paul fell.

For sign languages, including UgSL, disambiguation of reference is also straightforward, but in an utterance such as example (6-5a-b) below is achieved through the use of pronominal pointing to the two distinct loci established for the two referents.

(6-5a) r: SN: BEN **PRO$_{3z}$**   2h:1-$_{CL:PERSON-BUMP}$ **PRO$_{3z}$** ANGRY

      l: SN:PAUL **PRO$_{3x}$**

      'Ben and Paul bump into each other, and he (Ben) gets angry.'

(6-5b) r: SN: BEN **PRO$_{3z}$**   2h:1-$_{CL: PERSON-BUMP}$

      l: SN:PAUL **PRO$_{3x}$**   **PRO$_{3x}$** ANGRY

      'Ben and Paul bump into each other, and he (Paul) gets angry.'

Unlike in Diyari, sign languages like UgSL can use the pronominal system itself for disambiguation, and as a large number of loci are readily available in the signing space, disambiguation is not limited to two referents, but can be used for several referents, each of which can be associated with a unique locus that pronouns can point to in order to establish co-reference. It can be said that sign languages have the lowest level of ambiguity because of the spatial system used, where signers can set up several pronominal reference points. Considering this potentially unlimited number of possible loci, Liddell (2000:366-9) has argued that the spatial loci of pronouns in signed languages are not part

of sign language grammar, but are gestural, citing the ways in which hearing people also use pointing. He states that the directionality of pointing has the discourse function of semantically associating the referent with the sign, indicating either present or non-present referents.

Pointing fulfils a range of functions in sign languages, including pronominal reference as discussed above (referring back to antecedents), demonstrative / deictic functions, and a more abstract function as determiners. The latter was identified in Zimmer & Patschke (1990) for ASL, where a particular type of shortened pointing has a nondistinct location in signing space. There is a close link between demonstrative / deictic and pronominal functions in sign languages, to the extent that some authors consider all pointing signs to be deictic rather than pronominal. Thus Ahlgren (1990:166) asserts that rather than having a class of pronouns as such, 'Swedish Sign Language instead grammaticizes deixis of location in a highly structured and complex way for a variety of functions, including that of referring to persons'. This link is also evident in UgSL, yet a separate set of demonstrative pronouns has been identified in UgSL (cf. Section 6.3). Pronouns in sign languages also resemble other classes of signs in some ways. According to Slobin (2008:21), verbs of location and motion in many signed languages 'include handshapes that serve as incorporated pronouns or referential place-holders for entities that have already been established in discourse'. However, such signs are not considered in this chapter, as the focus here is on independent pronominal signs.

Previous research on pronouns covers a number of different sign languages and the properties of their pronominal paradigms (cf. the comparative study by McBurney 2002). Due to the widespread use of index pointing, pronominal systems are much more similar across sign languages than across spoken languages. However, Perniss et al. (2007:14) state that "[i]n addition to variation in the systems of personal pronouns, sign languages also appear to exhibit considerable variation in their paradigms of possessive pronouns". In Western sign languages, pronouns do not usually show gender, and UgSL also does not indicate gender with its pronouns. Pronouns in Asian sign languages do sometimes show gender distinctions (McBurney 2002; Perniss et al. 2007). The UgSL data presented here add to the known

typological diversity across sign languages, as evidenced in the remaining sections of this chapter.

This chapter gives an account of the grammatical system of pronominal paradigms, and the language-specific rules that apply to the use of the various pronouns. In the following sections, each pronominal paradigm is discussed in detail. In Section 6.2, it is argued that UgSL may have evidence of a distinction between first, second and third person in the personal pronoun paradigm. This is established with reference to the UgSL corpus, following the corpus methodology outlined in Chapter 3. Sections 6.3 – 6.8 document other pronominal paradigms in UgSL, including fine-grained semantic distinctions not found in other sign languages. In these pronouns, no convincing evidence was found for a grammatical distinction between second and third person forms, and therefore, a first versus non-first distinction is assumed in the other pronoun series. UgSL has a very high number of pronominal paradigms and is therefore of particular typological significance.

In order to identify the appropriate data for this chapter, several methodological steps and sources needed to be combined. Building of evidence from the data started on the basis of personal pronouns, typically realised as index finger pointing. After identifying basic characteristics of these pronouns, the other pronominal forms and paradigms were identified in the data corpus on the basis of their family resemblance in terms of the rationale mentioned above. This made it possible to extract examples from the data corpus, revealing a considerable array of pronominal series. However, the complete paradigms of all pronominal forms in each pronominal series would usually not be discoverable from a data corpus alone. Therefore, introspection was needed to fill in the gaps and consider complete pronominal paradigms in each case.

Unlike for several of the other chapters in Part III, the UgSL Dictionary was of limited use for this chapter. Some pronominal forms do appear in the dictionary, but the actual variety of pronominal paradigms is not recognised in the dictionary.

A particular methodological challenge was encountered with respect to glossing decisions, as it has been difficult to decide how to gloss the direction where the indexical pronominal signs point. In general, the intention has been to gloss

subscripts 1, 2, and 3 according to the semantics of the utterance (that is, signer, addressee or other person). For personal pronouns, this can sometimes be argued to coincide with a grammatical person distinction (1, 2, 3), but for other pronoun series, 2 and 3 are used in glosses on a semantic basis and no grammatical 2/3 distinction is implied. Sometimes several approaches are in conflict, and decisions on glossing have been difficult in some cases.

6.2   Personal pronouns

Pronominal systems have several sets of pronouns, for example personal pronouns or possessive pronouns, each of which usually has person distinctions. This section investigates personal pronouns in UgSL.

In personal pronouns, there is a distinction between first, second and third person pronouns in many languages. In sign languages, such distinctions can be expressed through the location of the hand in space. Languages may also have separate forms for subject pronouns and object pronouns (cf. Wales 1996:6-7 and Haspelmath 1997:9 for distinctions in personal pronouns of spoken languages).

UgSL personal pronouns mainly use index finger pointing, though there are several other forms for dual and plural referents. On the basis of the UgSL corpus data, UgSL has distinct first person pronouns, and may also make systematic distinctions between second and third person, a possibility that is as discussed in later sections of this chapter.

6.2.1   Person distinctions in UgSL personal pronouns

The question of person distinctions in personal pronouns of sign languages has been discussed in previous literature, and different authors have come to different conclusions. Meier (1990) holds the view that ASL uses two types of pronoun: first person and non-first person (which may include second and/or third person referents). It has been argued that the only difference between second and third person pronoun usage in ASL is sometimes a shift in eye gaze (cf. Cormier 2007:67). Similar claims about gaze direction have been made for other signed languages. Engberg-Pedersen states that in DSL the gaze is part of the communication event rather than part of a second person pronoun (1993:135). According to Wallin (1987:2), gaze direction is different from

manual pointing in Swedish Sign Language, because 'the gaze direction signals who you are talking to, the manual pointing indicates who the signer is referring to' (Nilsson 2004:5). Some authors have argued that sign languages may lack any distinction in person in their pronominal paradigm (Ahlgren 1990; McBurney 2002).

Berenz (2002:206 in Cormier 2007:96) does not disagree with the idea of a distinct first person pronoun, but also argues for a second person pronoun. Researchers of Brazilian Sign Language (LSB) and Croatian Sign Language (HZJ) have asserted that the difference between second and third person pronouns is that the direction of the hand, head and eye gaze are all the same in second person, but for third person, there is a lack of directional alignment of these three features (see Berenz 2002 for LSB; Alibašić Ciciliani & Wilbur 2006 for HZJ, as referenced in Pfau & Quer 2010:394).

In the following sections, I detail the differences in singular pronouns with respect to first, second and third person reference, in order to evaluate in how far these distinctions can be posited in UgSL.

6.2.1.1   Pronominal reference to first person singular

As in most other sign languages, first person singular reference is achieved by pointing to the signer's chest. In UgSL, first person (i.e. PRO_1 in Figure 6.1 below) may refer to the signer themselves, or to another person via role shift; this also occurs in other sign languages such as ASL (Meier 1990 in Cormier 2007:67). Translations of this would include the English words *I* or *me* or the Luganda word *nze*.

Figures 6.1: The sign PRO_1

Three forms of the first person singular pronoun have been found in the data: The two commonly occurring forms involve one form with an index finger

touching the chest (50 times, 65%) and one with a bent hand, with the fingers held together and the fingertips touching the chest (26 times, 35%) (see example in 6-6a below).

The first person pronoun form where four fingers make contact with the chest is similar in form to the first person possessive (see Section 9.1.1 in the chapter on possession and existence, where this is explained in more detail). For example, if the signer used this form adjacent with the sign MOTHER, then it was likely a possessive occurrence (cf. Section 6.7.1 below on possessive pronouns). However, its use as a personal pronoun is also attested in the data, in which case the form is a variant of index finger pointing. Rarely, a reduplicated first person index form is found in the data, as in example (6-6b), so that the finger touches the chest twice. Out of a total of 76 occurrences that have been counted here, this happens 15 times (13%) out of which twice as many occurrences are with index finger (10 times) than with bent handshape (5 times). The occurrence of these variants is shown in Figure 6.2.
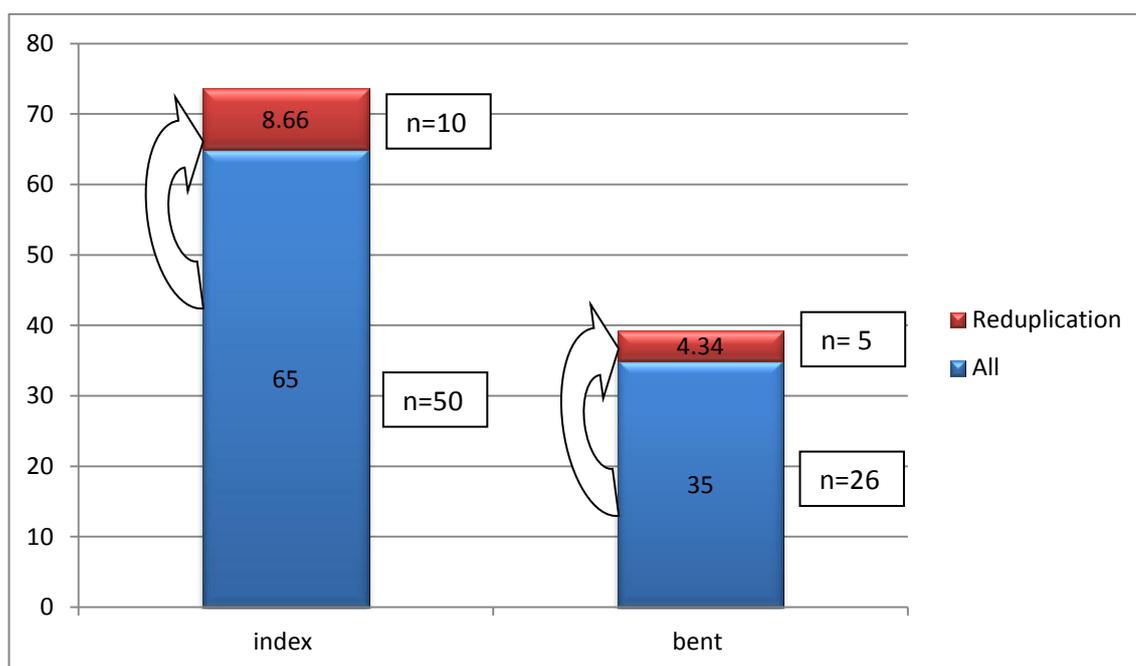
Figure 6.2: Percentages of 1st person singular pronoun forms

The example in (6-6a) shows the first person singular alternate form that sometimes occurs in the data: instead of an index finger, all four fingers make contact with the chest (this is also found in other sign languages; see e.g. Fenlon et al. 2013):

(6-6a) **PRO_{1-B}** HEAR OKUGAANA DEAF

'I am not hearing; I am Deaf.'   (Uga_mulesa.eaf00:00:16-7)

Occasionally, we also find reduplicated pointing to the signer's chest in the data, as in example (6-6b):

(6-6b) **PRO_{1-B+REDUP}** GO TEACH CHILD-_{PL} DEAF

'I went to the town of Mpigi and taught Deaf children.'

(Uga_anne.eaf00:00:35-7)

It is not clear at this stage what the function of the repeated pointing is (note that this example is different from the repeated pointing that is accompanied by a particular facial expression; see Section 6.4). In one instance of reduplicated pointing for first person, a person signed 'Thank you for voting for me', reduplicating the first person pronoun sign meaning 'me'. This reduplication seemed to mean 'me, not the other candidates'. In other examples, the reduplication appeared at the beginning of the sentence, as with one signer who said 'I go to work'. Here, the reduplication could have meant 'only I'. In other cases, the reduplication could be a phonological variant without any specific meaning attached to it. However, it is relevant that reduplication is only found with first person reference and never with second or third person reference (see also Fenlon et al. 2013, regarding a similar type of reduplication in BSL pronouns).

These alternations in the first person singular pronoun support the analysis of first person as distinct from the other personal pronoun forms due to the variation in handshape and the occurrence of reduplication.[34]

6.2.1.2 Pronominal reference to second and third person singular

---

[34] Handshape variation has been found in self-pointing gestures too (cf. Cooperrider 2011, in Fenlon et al. 2013), but the implications of this finding cannot be evaluated within the scope of the discussion here.

Second person singular reference involves pointing to the addressee with the index finger. Padden (1988) says the spatial loci associated grammatically with second person in ASL are the space near or in the direction of the addressee, and this is the case for UgSL PRO$_2$ (see Figure 6.1a in Table 6.1 above). Translations of this would include the English word *you* or the Luganda word *gwe*.

Unlike for first person, pointing for addressee reference was never reduplicated in the data. However, a different alternation was found in the data, as there were two forms used for second person singular reference: one palm-up (PRO: SUPINE) and one palm-down (PRO: PRON). The palm-up form was much less frequent, and seemed to appear more in two-person dialogues than in narratives. It was challenging to determine an appropriate gloss for this form to use in the transcriptions. So far, the main pronominal form in most of the literature is a palm-down or palm-sideways (neutral) index form, and it is not clear whether a supinated form has been found in any other signed languages. There was no palm-up index sign used for third person reference in the data. This difference between second and third person reference, i.e. that the palm-up, supinated index form is used for the former but not the latter, suggests that UgSL may make some distinction between second and third person pronouns.

Signers usually keep their gaze on their addressee, but sometimes they turn their head and eyes toward the location of a third person referent (i.e. to their right or left) to enact a particular conversation. In most of these instances, signers were relating an interaction that had happened in the past.

Third person singular reference involves pointing to another location in space associated with the third person referent (i.e. PRO$_3$; see Figure 6.3).

Figure 6.3: The sign PRO$_3$

Third person singular reference is characterised by the absence of alternations found in first and second person, that is, no forms with an open handshape, with reduplication movement, or with a different hand orientation have been found. However, there is a different handshape alternation in third person pronouns, where the handshape has an extended thumb rather than index finger. This occurs very rarely in the data, but is never seen with first or second person reference.[35] This extended-thumb form also appears in other sign languages, as noted by Bayley et al. (2002) and Fenlon et al. (2013). Further research is needed to determine why first and second person cannot be indicated with this form.

In UgSL, there are no gender distinctions in pronouns, so reference to male and female persons has the same form. Other types of referents, such as animals, objects, or abstract concepts, are also presented with the same form, index finger pointing.

6.2.1.2   Dual personal pronouns

A dual pronominal form refers to two entities. This can either take the form of two distinctive points made with an index finger handshape, carried out with one hand or two hands, or a to-and-fro movement with two extended fingers. The dual in in BSL, e.g. TWO-OF-US (Cormier 2007:76), has the same handshape as the dual pronoun in UgSL depicted in Figure 6.4. There are various examples using this form in UgSL, as in the following:

(6-7)   A: SAME $_2$PRO$_{1\text{-}DUAL}$

'We two are the same.'

B: FATHER TAKE-CHILD SCHOOL

'My father took me to school.'

---

[35] It also seems that for third person referents, a height distinction can be relevant with index finger pointing, so that points that are higher up in signing space correlate with distance of the referent. Logically, this would not normally occur with first or second person reference, but this point has not been investigated in detail here.

Figure 6.4: The sign $_3$PRO$_3$-$_{DUAL}$

With respect to duals realised by index finger pointing, there is a degree of variation. The two-handed pointing can be carried out simultaneously, with both hands moving at the same time, or sequentially, one hand pointing first and then the other, and even repeatedly in sequence. Variation is illustrated by the following examples:

Sequential

(6-8a) **PRO$_2$ PRO$_1$**

'you and me'

Second person + first person reference (using one hand only, with the second person form articulated first).

Partially simultaneous

(6-8b) l: **PRO$_2$-----------**

r: **PRO$_1$**

'you and me'

Second person + first person reference (using both hands, but articulation of the second-person form commences first).

Fully simultaneous

(6-8c) r: **PRO$_3$**

l: **PRO$_2$**

'you and s/he'

Second person + third person reference (using both hands at the same time).

The UgSL dual form with simultaneous pointing of both hands is particularly interesting. As pointed out in Hendriks (2008:253) and Vermeerbergen et al. (2007), it is more common in sign languages to move one hand first and then hold it in place while the second hand articulates. Often the non-dominant hand is held while the dominant hand articulates, achieving partial simultaneity. This also occurs in UgSL pronouns, as in (6-8b), but in addition, a UgSL dual pronoun may be fully simultaneous, with both hands moving at the same time and pointing to different spatial locations, as in (6-8c).

With respect to the 2-handshape, there is variation of the orientation of the hand. The fingertips may point upwards, or the hand orientation may be horizontal. It seems that this variation is mostly due to articulatory ease and does not carry any difference in meaning.

The dual pronoun forms in UgSL are summarised in Figure 6.5.
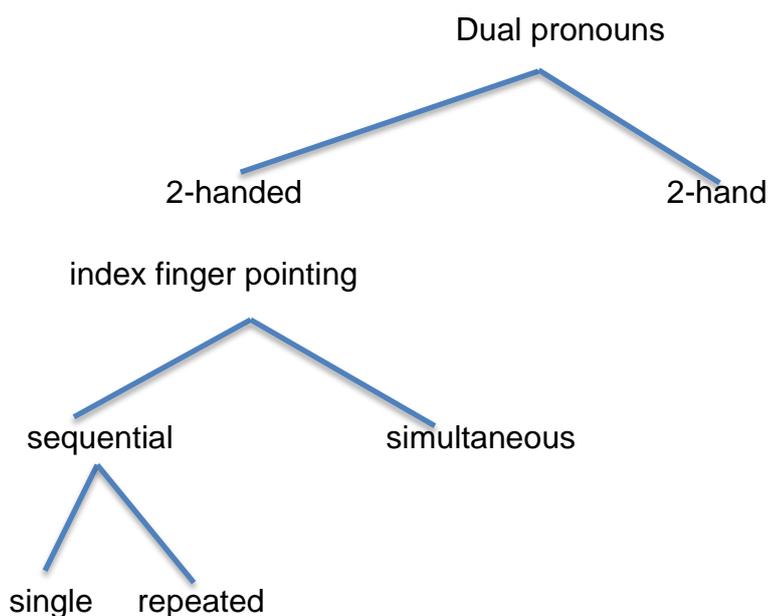
Figure 6.5: Dual pronouns forms in UgSL

6.2.1.3   Plural in personal pronouns: Collective and individual

In UgSL it is possible to refer to several persons by pointing them out individually in space using index finger pointing, similar to saying 'each of them'. The signer may indicate two individuals (see Section 6.2.1.2 on dual personal pronouns above), or several individual persons. (Examples of this phenomenon,

i.e. composite pronouns, in BSL are provided in Cormier 2007.) Pointing at various locations in space is akin to the distributive inflections discussed in Part II.

In addition to pointing out referents individually, UgSL also has plural pronouns. These forms (which include first person plural inclusive 'we including you' and exclusive 'we but not you') combine reference to several entities in one pronominal plural form (Cormier 2007:83). ASL and BSL have a similar first person plural form WE-CENTRAL 'we', which can have either inclusive or exclusive meaning (ibid), contrasted with WE-DISPLACED, which can only have an exclusive interpretation. In UgSL, WE-CENTRAL 'we' and PRO$_3$-$_{COLL}$ 'they/you (plural)' are expressed by an index finger handshape moving in a horizontal arc, as in these examples from the corpus data:

(6-9)   PAY (BODABODA-PORTER: $_{BICYCLE}$) WATER **PRO$_3$-$_{COLL}$** EMPTY
'She paid him to go by bicycle to get water, because they were all out.'

<div align="right">(Uga_amongi_akullo.eaf00:00:24-7)</div>

(6-10) STUDENT **PRO$_3$-$_{COLL}$** PALM-UP BEHAVIOUR PALM-UP
    'The students were not well-behaved.'   (Uga_lule_akomele1.eaf00:06:33-7)

The plural form can be placed at various locations in the signing space. If first person reference is included, the arc movement will include the location of the signer's body ('we'). For second-third person references, the arc movement is made in the signing space in front of the signer ('you (plural)/they')

6.2.1.4   Plural and numeral handshapes

Numerals can be combined with pronominal forms that have non-singular reference. The dual pronoun uses the same handshape that is used in the number sign TWO. In the same way, handshapes for higher numbers can also be used in pronouns. In UgSL, this is possible for the numerals THREE, FOUR and FIVE. According to Cormier (2007:78), first person pronouns can be numeral-incorporated. In UgSL this is possible for up to five first persons, although no occurrences of numeral incorporated forms showing four or five first persons were found in the data.

For the trial form, which can change its location to indicate first, second, or third person, the handshape of sign THREE2 must be used. The other form

for 'three', i.e. THREE1, is not used for this purpose (see Figures in Table 5.3). Quadral and quintal forms use the handshapes of the signs FOUR and FIVE1 (see Figures in Table 5.4). A form with the handshape of the number SIX (see Table 5.2) occurs only rarely and seems marginal in the language. Handshapes for numerals above six cannot be used in personal pronouns.

In addition to the above, UgSL has another related form which starts out in the same way as the 2-handshape dual, the trial, quadral and quintal form above, but then adds a handshape change, so that the fingers are brought together and touch each other. These forms carry an additional collective meaning, in the sense of 'the two/three/four/five of them *all together*'. Again, first person reference can be included, in which case the sign ends close to the signer's chest. If first person reference is not included, the sign is placed in the signing space according to the location that is being indexed.

As Siewierska (2004:87) notes, spoken languages generally have pronominal systems consisting of categories up to the trial, but not including higher numerals. In sign languages, on the other hand, trial, quadral and quintal forms such as found in UgSL are not uncommon (see Baker-Shenk & Cokely 1991:213; Zeshan 2003b:83; Sandler & Lillo-Martin 2006:69-70). In UgSL, we find a complete set of forms for dual, trial, quadral and quintal in several paradigmatic contrasts. In order to facilitate comparison with work in Cormier (2007), Table 6.2 summarises UgSL forms that include first person reference. The various sub-paradigms of pronominal plural forms are also found with non-first person reference.

Types of first person plural	Pronominal sign	Arrangement of central or displaced form
First person plural (WE)	WE-CENTRAL	Produced at or near the centre of the signer's chest; the signer's midline is the axis of the arc/circular movement
Number-incorporated first person plurals (3/4/5-OF-US)	3/4/5-OF-US CENTRAL	Produced at or near the centre of the signer's chest

	3/4/5-OF-US DISPLACED	Produced on either the signer's left or right side
Number-incorporated first person plurals (3/4/5-OF-US-TOGETHER): UgSL only	3/4/5-OF-US-TOGETHER CENTRAL	Produced slightly left or right of the signer's midline on the chest; typically involves spread to closing of fingers.
	3/4/5-OF-US-TOGETHER DISPLACED	Produced on either the signer's left or right side
First person plural possessive (OUR)	OUR-CENTRAL	Like WE-CENTRAL, produced at or near centre of the signer's chest such that signer's midline is axis of arc/circular movement
Universally quantified first person plurals (ALL-OF-US)	ALL-OF-US-CENTRAL	Produced at or near centre of the signer's chest; signer's midline is axis of arc/circular movement
	ALL-OF-US-DISPLACED	Produced slightly to left or right of the signer's midline.

Table 6.2: Lexical plural pronoun comparison in ASL, BSL and UgSL adapted from Cormier (2007:78).

The use of pronominal forms can have a strong element of simultaneity, conceptually akin to some of the phenomena discussed in Vermeerbergen et al. (2007). In particular, the pronominal system interacts with spatial grammar in complex ways. For instance, in addition to the forms discussed above, we also find two-handed combinations, where one pronominal form is expressed on each hand, and the hands are localised in space.

(6-11) ONE-PRO$_3$ TWO-PRO$_2$ THREE-PRO$_1$

     'Him first, you second, and me third.'   (Uga_ssebenkitta_topher.eaf00:04:15-7)

Example (6-11) from the data shows numbers 1-3. The three are all articulated with the same hand in this example, but it is possible to use both hands to produce this clause, and articulate two of the forms simultaneously, as in (6-12).

(6-12) r: ONE-PRO$_3$-------------------- THREE-PRO$_1$

    l: TWO-PRO$_2$---------------------------

    'Him first, you second, and me third.'

The simultaneous expression of two pronouns on both hands is parallel to the same spatial mechanism as applied to other classes of signs. Thus it is possible to simultaneously express two numerals, one on each hand, as discussed in Chapter 5.

6.3   Demonstrative pronouns

Demonstrative pronouns in UgSL convey information about time and space. UgSL seems to have two demonstrative pronouns, an index form and a flat-hand form. The index form is used more for expressions of time, and the flat-hand form tends to be for expressions of place. The glossing of the flat-hand demonstrative was inadequate initially, because a form similar to this is used for possession, honorifics, and interrogatives and the researcher had glossed all of these the same way. Therefore the researcher had to find all of these occurrences again, examine the context of each, determine which function each was performing, and make the glosses distinct accordingly. (For the honorific function of this form, see Section 6.6 on honorific pronouns; for the possessive and existential function, see Chapter 9 on possession; for the interrogative function, see Section 7.2.1).

When reference is made to time, a downward index finger point to the location in front of the signer can be used, as in (6-13a) below, or a forward point may be used to indicate the future, as in (6-13b) below.

(6-13a)   **DEM-$_{IX+d}$** YEAR-$_{FUT}$

               'This year'

(6-13b)   **DEM-$_{IX+y}$** YEAR-$_{FUT}$

'Next year'

This is an abstract reference to time, not location or an object (e.g. the floor). By contrast, demonstrative reference to places can use any part of the signing space, for example:

(6-14) HOUSE SLEEP2 **DEM-IX+u**

'I sleep upstairs.'

Regarding examples (6-13a), (6-13b) and (6-14), pointing downward in UgSL is ambiguous between temporal and spatial reference, as it can mean either 'here' or 'now' (cf. Zeshan 2000a on IPSL; Le Guen 2012 on Yucatec Mayan Sign Language). By contrast, demonstrative reference to places can use any part of the signing space as in example (6-14). Sign languages regularly use pronominal pointing metaphorically as well as literally, and numerous such extensions can be observed in sign languages, such as pointing to finger tips to refer to persons (sometimes called 'list buoys' as in Liddell 2003:223; and Safar forthcoming), or pointing along metaphorical 'time lines' (e.g. Engberg-Pedersen 1993 and Pereiro & Soneira 2004).

Two-handed complex combinations are also possible, as in (6-14), and it would be possible to indicate more than one spatial location in such an utterance.

(6-15) r: PRO$_{1-B}$-------------------

l: **DEM-EXIST-REDUP+d**

'I have been here.'   (Uga_ssebenkitta_topher.eaf00:17:51-2)

Unlike in spoken languages, in sign languages all temporal and spatial demonstrative reference is mapped onto the signing space, as abstract temporal information can be represented by spatial locations (see Sutton-Spence & Woll 1999:41 and Meir & Sandler 2008:60 on signing space with respect to pronouns in BSL and ISL, and Haspelmath 1997:30; Haegeman & Guéron 1999:263; and Siewierska 2004:9-11).

(6-16) SCHOOL **DEM-IX+d** UGANDA **DEM-IX+d**

'I taught at the school in Uganda.'   (Uga_diriisa.eaf00:00:31-3)

(6-17) TEACH CONTINUE++ STAY **DEM-EXIST+uz**

'I live and work there as a teacher (of deaf children).'

In UgSL, in addition to index finger pointing, another demonstrative pronominal form is available, which has an open flat-handshape (DEM). For demonstrative reference to time, the fixed location in front of the signer is used for downward pointing ('now, at this time'). In some instances, the flat-handshape demonstrative is ungrammatical, for example in (6-18b):

(6-18a) **DEM-IX+d** YEAR-FUT

'This year'

(6-18b) ***DEM-EXIST+d** YEAR-FUTURE

'This year'

It seems that with reference to time, the flat-handshape demonstrative can only be used on its own ('now, at this time'), but cannot be used in combination with other signs that indicate time reference, such as for 'year', 'week', etc; in this case, index finger pointing must be used.

When the flat-handshape demonstrative refers to places, all parts of the signing space can be used, including the upper signing space, as in this example, referring to 'heaven' metaphorically located above:

(6-19) HEAVEN **DEM-EXIST+u**

'There is a heaven.'

The flat-handshape in UgSL is used in a number of functions, including possession and honorific pronouns, and sometimes it was difficult to keep these functions apart, as mentioned at the beginning of this section.

A demonstrative pronoun can be used simultaneously with a hold of the non-dominant hand, as in the example below.

```
                                            br
(6-20)  r: LANGUAGE DEM-IX+d      WHAT
        l:             DH: B-HOLD----
```

'What is this language?'   (Uga_anne.eaf 00:06:33-4)

6.4 Specificity pronouns

In addition to the forms described in Section 6.2 and 6.3, UgSL has another pronominal form indicating specificity, which also uses index finger pointing but has a repeated movement and is often combined with non-manual expressions including a protruding tongue. However, it is as yet unclear whether these non-manual expressions are associated exclusively with specificity; they may indicate topic-marking, as appears the case for (6-21b) below, or emphasis, as seems likely for (6-21a) below. Sandler & Lillo-Martin (2006:298) also discuss pronominal forms that are accompanied by particular non-manual expressions.

Specificity pronouns appeared infrequently in the data, and were used most often to clarify the topic/item that was being discussed (e.g. 'I'm talking about this, not that').

<div>

_____sq

(6-21a) **PRO₃-REF-REDUP** GO3 SCHOOL

'It's him that went to school.'   (Uga_amongi_akullo.eaf00:01:20-1)

</div>

<div>

_____hn-br

(6-21b) r: PAST   **PRO₃-REF-REDUP** SCHOOL

l: BUOY-ᵢₓ---------------------

'In the past, there was only that one Deaf school in Uganda.'

(Uga_lule_akomele1.eaf00:11:27-30)

</div>

This pronominal form can be used to refer to all types of reference, both animate and inanimate, including persons. It is used to emphasise that a specific referent is being selected by the signer, for instance, in opposition to other possible referents that might be relevant to the discourse. This pronominal sign is glossed REF-REDUP and may be rendered in English as 'this one/it/you/he/they etc specifically, (not the other one/ones)', reflecting emphatic, specific, and contrastive semantics.

The first person pronoun cannot be repeated for emphasis using the specificity pronoun. Though reduplicated pronominal pointing to first person has been found in the UgSL corpus (see Section 6.2.1 above), this is not accompanied by the facial expression characteristic of the REF-REDUP pronoun. The REF-REDUP pronoun lacks a first person form in its paradigm and is only used for second and third person reference. Given the meaning of REF-REDUP,

this is not surprising, as in UgSL, it is always clear who the signer (that is, the visible producer of the utterance) is and therefore, the first person does not usually need to be specified or disambiguated.

In summary, personal pronouns and REF pronouns have the following similarities and differences:

	Personal pronoun	REF pronoun
Handshape	Index finger point	Index finger point
Movement	Single	Repeated
Non-manual	None	Obligatory non-manual
Referents	All types of referents including first person	All types of referents but no first person
Emphasis	Neutral	Emphatic
Additional semantics	None	Specific, contrastive

Table 6.3: Personal and REF pronouns in UgSL

6.5 Honorific pronouns

Honorific pronouns are used in signed and spoken languages for referents that have a high social standing in one way or another, for example a leader, a member of the royal family, the government, and the like. Usage of honorific pronouns, usually for human referents, depends on the local culture where the language is used (cf. Wales 1996:55 and Siewierska 2004:215 with respect to spoken languages). UgSL has a set of honorific pronouns, articulated with a flat-handshape with palm upwards and directed towards the referent location. Second person (i.e. PRO_2-$_{HON}$ see Figure 6.6) refers to the addressee.

Figure 6.6: The sign PRO_2-$_{HON}$

There are various examples using this form in UgSL as honorific pronouns of the second and third person.

(6-22)   **PRO₂-HON** NAME **PRO₂-HON** ^{br}

$$\overline{\text{PRO}_2\text{-HON NAME PRO}_2\text{-HON}}^{\,br}$$

(6-22) **PRO₂-HON** NAME **PRO₂-HON**
    'And your name is?'

(6-23) BOSS **PRO₃-HON**
    'That's the boss.'

This form conveys the importance of the person or persons referred to. By contrast, using index finger pointing does not convey respect in the way that the honorific pronoun does. Both singular forms and plural forms occur, including the collective plural using arc movement:

(6-24) **PRO₃-HON-PL**

Honorific pronouns have been found in a number of other sign languages. ASL also uses a flat-handshape form, but there is a path movement downwards and then upwards (Baker-Shenk & Cokely 1991:207). In Turkish Sign Language (TİD), the honorific pronoun has a handshape with the thumb extended and facing upwards, and can be used for first, second or third person (Zeshan 2003a:64). In UgSL, ASL and TiD, the honorific pronoun is used in similar ways in order to convey respect for human referents, or occasionally for compatible abstract referents such as 'government'. Unlike in TİD, in UgSL the honorific pronoun cannot be used for objects or for first person reference, as it is ungrammatical/infelicitous to refer to oneself using a honorific pronoun.

6.6   Emphatic pronouns

Three sets of pronouns in UgSL carry particular emphatic semantics, each with its own slightly different connotations. They are referred to here as 'neutral emphatic', 'exclusive emphatic', 'pejorative emphatic', and 'emphatic responsibility' pronouns. Translations into English are similar for these three pronouns, often involving English 'my/your/.../self', as the finer semantic distinctions made in UgSL cannot be expressed in a single translation equivalent in English. There are very few studies on several types of emphatic pronouns, either in the spoken language literature or the sign language

literature. Many other languages do not seem to have these specific types of emphatic pronouns; for example, English only has a single form (*my)self.*

6.6.1 Neutral emphatic

The neutral emphatic pronoun in its singular and plural forms uses a handshape with an extended thumb pointing upwards, and the mouth pattern <wa> (see Figure 6.1b in Table 6.1 for third person reference).

    _____**<wa>**

(6-25) **PRO$_{1}$-$_{NEUT}$** FLEE VILLAGE

     'I went away myself to the village.'

<div align="right">(Ug_ssebenkitta_topher.eaf00:12:55-7)</div>

This sign emphasises the pronominal referent, to the exclusion of other referents, equivalent to saying 'I did it *myself*' in English. For plural reference, a distributive form can be used, repeating the sign at several spatial locations. A dual form is also possible, using two hands simultaneously, and the collective plural with the arc movement is applicable to this sign.

The neutral emphatic pronoun has an obligatory mouth pattern <wa>, without which the sign would be ungrammatical and meaningless. Emphatic pronouns are also found in other sign languages (e.g. Sandler & Lillo-Martin 2006:374-5); however, the form of this pronoun with its accompanying mouth pattern is particular to UgSL.

6.6.2 Exclusive emphatic

The exclusive emphatic pronoun in UgSL, i.e. PRO$_{1}$-$_{EXCL}$ and PRO$_{2 \text{ or } 3}$-$_{EXCL}$ (see Figure 6.7), uses the same handshape and basic movement regardless of referent, and only the direction/location is different for first person referents and second/third person referents. The signer also articulates an <om> mouthing for each of these forms, though this does not seem to be derived from a particular spoken language word. These signs occur in both singular and plural forms at various referent locations, and are used to emphasise that the signer is making reference to a particular referent (X) while specifically excluding other referents (Y). Importantly, this meaning 'X, but not Y' relies on the context of the discourse.
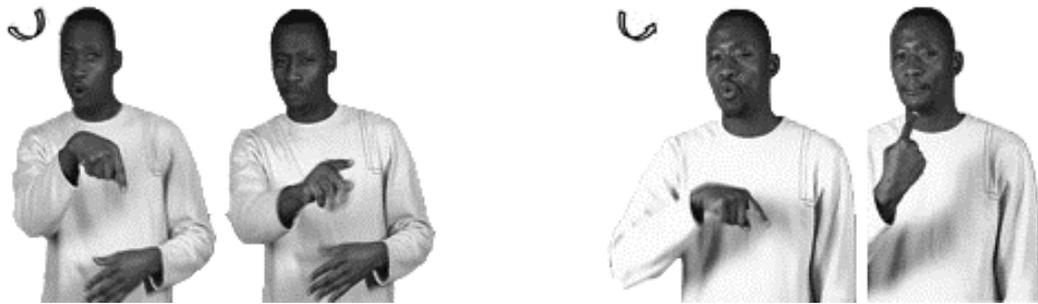
Figure 6.7: The sign PRO$_{2\text{ or }3}$-EXCL and The sign PRO$_1$-EXCL

Consider the following example in (6-26):

         _____hs_____<om>

(6-26) SN: SAM PRO$_3$-PL-COLL FOOD SHARE / **PRO$_1$-EXCL**

      'Sam would not share the food with them.'

The other people implicit in the predicate are excluded by using <om>. Therefore, the sentence means that only the signer will be eating the food, and definitely not the other people. <om> also has a second/third person form which is directed away from the signer.

The exclusive emphatic pronoun has plural forms, such as the distributed form in the following example:

        ____**<om>**

(6-27) r: C-CL: HANDLING-BEER------------------

      l: **PRO$_1$-EXCL** PALM-UP

      'This beer is mine.'   (Ug_mulesa_akol.eaf00:03:31-2)

An obligatory mouth pattern <om> is an important part of this sign, and omitting this non-manual is ungrammatical, as the manual part of the sign on its own would be meaningless. In the context of talking about objects, such as food, using this pronoun emphasises that the items in the context relate or belong to the referent of the pronoun, specifically excluding others. Translation equivalents in other signed languages seem to be rare, so the exclusive emphatic pronoun is peculiar to UgSL.

6.6.3 Pejorative emphatic

Yet another pronoun series in UgSL is the pejorative emphatic pronoun as (see Figure 6.1d in Table 6.1 above), which again can be used with reference to all

persons and all number categories. The following is an example from the corpus:

(6-28) A: PRO₂ S-CL: ANGLE-ARM-LIFT-WITH-BOSS TALK+PALM-UP

'What did your boss do (when you were all in the car)?'

<u>___<sef></u>
B: THINK **PRO₃-PEJ**

'Nothing. We were responsible for ourselves.' (Uga_mulesa_akol.eaf00:03:26-8)

This pronoun has an accompanying mouth pattern <sef>. It expresses an additional meaning nuance, namely that the referent alone is responsible for something, and nobody else is supposed to do anything about it. For instance, using the pronoun with second person reference, it carries a connotation of 'you are responsible for this yourself, and I am not going to help you'. The term 'pejorative' derives from this meaning connotation. This pronoun has dual forms, for instance the form articulated with both hands simultaneously, as well as a distributive form for plural reference.

An exact equivalent to the pejorative emphatic pronoun in UgSL has not been identified in other signed languages, so it seems to be particular to UgSL.

6.6.4 Emphatic responsibility pronoun RESP

UgSL has a fourth set of pronominal forms used to convey emphasis, the 'emphatic responsibility' pronoun, glossed PRO-RESP. This pronoun has a flat-handshape with vertical hand orientation and a downward movement as (see Figure 6.1c in Table 6.1 above). The following example (6-29) is from the data corpus, where a two-handed form is used for third person reference:

<u>_____</u>br
(6-29) **PRO₃-RESP** BEHAVIOUR WH

'How does she behave?' (Uga_amuge_amongi.eaf00:03:54-6)

This pronoun specifically means 'referent having a particular responsibility for something', as in this example:

<u>_____</u>sq
(6-30) TEACH₃₊₂₊₃ WHO/ **PRO₁-RESP**

'I am the one responsible for teaching them.'

In this example, PRO_1-RESP is used with first person reference, so the hand orientation changes, with the fingertips pointing inwards towards the body and the hands moving vertically down the torso on both sides.

RESP can only be pluralised using the distributive inflection, but cannot take the arc movement collective plural. Each referent location has to be articulated separately in space.

A one-handed variant of RESP is shown in this example:

    _____t_____sq

(6-31) $GIVE_{3+2+3}$ MONEY $GIVE_{3+2+3}$ WHO/GOVERNMENT **PRO_3-RESP**

    'The government is responsible for paying them.'

The RESP pronoun has one-handed and two-handed variants in all persons, including first person. PRO-RESP uses the same handshape as the honorific pronoun (Section 6.5), but the hand orientation and movement pattern is different. Formationally, PRO-RESP in UgSL is similar to the honorific pronoun in ASL (see Baker-Shenk & Cokely 1991:207), but with slightly different orientation and movement features, as well as a difference in meaning.

6.6.5 Comparison between emphatic pronouns

The four types of emphatic pronouns are differentiated by subtle semantic distinctions. The exclusive emphatic 'om'-pronoun (Section 6.6.2) is different from the pejorative emphatic 'sef'-pronoun in the particular aspect of meaning each one focuses on. The 'om'-pronoun emphasises the referent in contrast with others, who are excluded. Therefore, a typical context for its occurrence is with notions of sharing, and it can often occur in contexts where objects are involved as well as persons.

The 'sef'-pronoun also implies a contrast with other referents, but in a slightly different way, emphasising that only the referent him/herself is responsible for something. It implies that nobody else can be found to take on the task or responsibility. This pronoun has a strong negative connotation, used in contexts of putting someone down. PRO-RESP is semantically similar in that it also implies a sense of responsibility for something that is imposed on the

pronominal referent. However, PRO-_{RESP} does not have the pejorative implication that the 'sef'-pronoun has. It merely indicates that a person has responsibility for something.

The 'wa'-pronoun has a more general emphatic meaning, and does not carry more specific additional connotations like the other emphatic pronouns. There is no positive or negative connotation with this pronoun.

The <wa> and <om> mouthings do not appear to be borrowed from spoken language, but <sef> likely represents a shortened version of the English word 'self'.

6.7 Possessive pronouns

UgSL has two sets of possessive pronouns, one of which is emphatic (Section 6.7.2), while the other one simply expresses possession without any additional semantic connotation (Section 6.7.1). Possessive pronouns in spoken languages are discussed in work by Wales (1996) and Heine (1997), for instance. For sign languages, see Zeshan & Perniss (2008). A previous study of possession in UgSL is Lutalo-Kiingi (2008).

6.7.1 Possessive pronoun

The UgSL possessive pronoun can be used with all number and person/spatial distinctions. It is articulated with a flat-handshape, where for first person the palm makes contact with the chest once, and for non-first person referents the sign is directed at locations in space.

The following distinctions are found in UgSL:

- Singular
- Dual (simultaneous with two hands)
- Distributed plural
- Collective plural

When numerous referents are referred to using the collective plural form, an obligatory 'puffed cheek' facial expression occurs, which emphasises that the signer is talking about many people.

In Section 6.2.1.1 above, handshape variation in the first person singular pronoun has been discussed, where pointing to the signer's chest can be done

with either the index finger or all four fingers, and there is a similarity with the possessive pronoun. Fenlon & Cormier (2006) mention that in many sign languages, indexing finger pointing, which is normally the personal pronoun, can also be used in possessive functions. In UgSL, personal and possessive pronouns are not completely separate in their usage, as it is often possible to use the personal pronoun with bent-handshape in the function of a possessive pronoun. Therefore, the two functions overlap, as the personal pronoun form can subsume possessive reference as one of its functions. As mentioned in Fenlon & Cormier (2006), this is also true of other sign languages. For further details on possession, including possessive pronouns, see Chapter 9.

6.7.2 Emphatic possessive pronoun

The emphatic possessive pronoun is used to stress that something really belongs to the possessor, usually a human referent. The meaning can be expressed by the English translation equivalent '(someone's) own'. The following example is from the data corpus:

(6-32) ORAL **POSS$_{3}$-DISTR** BUT TONE2-$_{REDUP}$

'They use their own local spoken languages, but a few (know official languages like English and Swahili).'

<div align="right">(Uga_mulesa.eaf00:05:38-41)</div>

The same sentence would be acceptable with POSS$_3$-EMP.

(6-33) r: SISTER GIRL CHILD

_____<ma>

l: **POSS$_{3}$-EMP**

'That little girl belongs to my sister.'

<div align="right">(Uga_amongi_akullo.eaf00:01:32-5)</div>

This pronoun is accompanied by an obligatory mouth pattern <ma>. For first person reference, the hand is oriented inwards, so that the fingertips face the signer. For reference to other persons, the fingertips face away from the signer. The sign emphasises the relationship of possessum items with the possessor. The following number and person distinctions are found:

- Singular (all persons)

- Simultaneous dual

- Distributive plural (all persons)

However, a plural form with arc movement is not possible with this pronoun. With distributive plural forms, the mouth pattern <ma> must be repeated in parallel with the repetition of the manual sign (see chapter on possession and existence).

Emphatic possessive pronouns are also found in other signed and spoken languages (cf. Heine 1997; Zeshan & Perniss 2008). In UgSL, the general flat-handshape possessive pronoun does not carry any emphatic connotation, and index finger pointing can sometimes substitute for the general possessive with equivalent meaning. However, the function of emphatic possessive pronouns cannot be covered by a personal pronoun, and to convey emphasis, the separate emphatic possessive is used instead of index finger pointing or the general possessive.

6.8   Reciprocal pronouns

Bhat (2004:85) characterises the notion of reciprocity as involving 'two different facts: (i) the sentence combines together two different events in which the same set of participants (…) are involved; (ii) the involvement of these participants in the second event is the reverse of their involvement in the first event'.

In English, the object pronoun and the reflexive pronoun pattern together, as both involve a pronominal form (*them*), while the reciprocal in (6-34c) involves a different, indefinite form, as these examples show:

(6-34a) *A and B love them*.

(6-34b) *A and B love themselves*.

(6-34c) *A and B love each other / one another*.

Bhat (2004:86) clarifies that 'English does not use its personal pronouns for deriving its reciprocal expressions, as it does in the case of its reflexive device'.

In UgSL, however, three different forms are available in the equivalent utterances: a personal pronoun form is used in (6-35a); the reflexive meaning in (6-35b) is expressed differently, with an upright index finger similar to the person classifier formation; and in (6-35d) the reciprocal pronoun is used. The

reciprocal pronoun is different in form from the personal pronoun series in that the handshape is bent-index and the movement involves a slight rotation of the forearm, which is absent in the personal pronoun forms. However, in addition to (6-35b), a personal pronoun form can also be used to express the reflexive meaning, as in (6-35c), which resembles the pattern found in English.

(6-35a) A and B LOVE **PRO$_3$-$_{COLL}$**

(6-35b) r: A and B LOVE **ONE$_{3+z}$**   reflexive

    l: **ONE$_{3+x}$**

(6-35c) r: A and B LOVE **PRO$_{3+z}$**   reflexive

    l: **PRO$_{3+x}$**

(6-35d) A and B LOVE $_3$**RECIP$_3$**   reciprocal

In a recent publication, Zeshan & Panda (2011:99-3) discuss reciprocal pronouns in sign languages, in particular IPSL (see also Baker-Shenk & Cokely 1991:254-5 for ASL). In IPSL, the personal pronoun and reciprocal pronoun are drawn from the same pronominal paradigm, while the reflexive is expressed separately (cf. Zeshan & Panda 2011:94). Figure 6.8 shows the form of the IPSL reciprocal pronoun (picture on the left) and the UgSL reciprocal pronoun (picture on the right).

Figure 6.8: The sign PRO$_3$-$_{RECIP3}$ (IPSL) and the sign PRO$_3$-$_{RECIP3}$ (UgSL)

Reciprocal forms have also been described in other sign languages. Previous research refers to auxiliary verbs in Taiwanese Sign Language (TSL), where auxiliaries are based on agreement / classifier verbs using the spatial loci for subject and object, as well as on pronominal forms. The auxiliary verbs under discussion have corresponding reciprocal forms in TSL (Smith 1990:224-6), and Steinbach & Pfau (2007:311-7) explain that the TSL auxiliaries are grammaticalised from verbs.

The reciprocal pronoun in UgSL has the same form as the lexical predicate DISCUSS, though the former is represented by the gloss PRO_3-RECIP3 in Figure 6.8. The reciprocal pronoun is prototypically used with reference to two persons (dual), with loci established on both sides of the signing space, as in this example:

(6-36) PRO_{3x} MAN PRO_{3z} WOMAN $_{3x}$TWO-OF-THEM$_{3z}$ LOVE **PRO_3-RECIP3**
　　　　'The two lovers are talking to each other.'

In UgSL, PRO_3-RECIP3 as cannot be used with a first person reference close to the signer's body; it must occur with two referent locations established away from the signer in space.

　　　　Figure 6.10: The sign PRO_2-RECIP1

First person reference then needs to be expressed separately, as in this example:

*(6-37) PRO_1 MEET **PRO_3-RECIP3**

(6-38) PRO_1 MEET **PRO_2-RECIP1**
　　　　'I met him and we talked with each other.'

One of the ways of expressing reciprocal pronouns in UgSL is to use the same form as the predicate PRO_3-RECIP3, but with the meaning 'each other'.

In addition, UgSL has a second way of expressing reciprocal pronouns by using the sign PRO_3-RECIP3 'each other' (see Section 6.8 and Figure 6.8 above) repeatedly. The hand then moves back and forth between the two referent locations.

The repetition of PRO_3-RECIP3 is equivalent in meaning to using the reciprocal pronoun derived from PRO_3-RECIP3. However, using repeated PRO_3-

RECIP3 as a reciprocal pronoun does allow for first person reference, as in this example:

(6-39) EVENING FRIEND TALK1-REDUP **PRO2-RECIP1**

    'In the evening we talked to each other.'

Reciprocal pronouns are relatively rare in the data corpus, but are found in UgSL discourse.

6.9 Conclusion

This chapter has discussed pronouns in UgSL, sign languages and spoken languages. UgSL has some unusual features not attested in the same way in other sign languages, particularly with respect to person distinctions in pronouns, and with respect to pronoun series.

As argued in Section 6.6.2, linguists have argued for a number of sign languages that a first-nonfirst distinction applies to pronouns in the particular sign language in question (e.g. Meier 1990 for ASL; Cormier, Schembri & Woll 2013 for BSL). There is thus an emerging trend in the sign language literature that a first-nonfirst distinction may characterise many pronominal systems in sign languages. However, the UgSL data calls a first-nonfirst distinction into question for the personal pronoun series in this sign language. While the second person pronominal index point has two allomorphs with two distinct hand orientations (palm up and palm sideways), the third person pronominal index is found with only a single orientation (palm sideways). This could well indicate that there is a systematic distinction between second and third person pronominal index points in UgSL (see Section 6.2.1.4). However, in order to prove such a distinction conclusively, it would be necessary to show that the pronominal index point with palm-up orientation is actually ungrammatical with third person reference. This cannot be done using the primarily corpus-based methodology here, as the corpus only shows what occurs, but not which forms are ungrammatical. In a future, more detailed study, it would be desirable to test the native intuitions of a substantial number of UgSL signers to determine whether the palm-up index is indeed rejected as ungrammatical or unfelicitous with third person reference.

Irrespective of such further findings, the UgSL data on pronominal index pointing lead to an interesting conclusion, in comparison with the wider sign language literature. Other authors discussing person distinctions in other sign languages as mentioned in Section 6.2.1 always argue for or against person distinctions with respect to a particular *sign language*, for instance ASL. However, the UgSL data show that it is important to at least consider the possibility that person distinctions may not be a property of the language as a whole, but rather of *individual pronominal paradigms* or series.

Thus personal pronouns (pronominal index points) in UgSL may have a different set of person distinctions than the other pronominal series. Whereas a final decision could not be reached on person distinctions in the series of pronominal index points, it is clear from the data that the other pronoun series show no evidence of any distinction of second versus third person. In other sign languages as well, including ASL and BSL, it has been suggested that differential person distinctions apply to parts of pronominal paradigms. For instance, a first/non-first person distinction has been argued to exist in the plural only but not in the singular for BSL and ASL (Cormier, Schembri & Woll 2013).

In the other pronominal series, of which UgSL has a large number, only a distinction between first and nonfirst person can be argued for. As discussed in the above sections, many of the other pronominal series have special rules or particularities that apply to first person only, but not to other persons.

From a typological point of view, the second intriguing fact about UgSL pronouns is the sheer variety of pronominal series. No other documented sign language has a similar variety of pronouns as UgSL. Therefore, it is possible in UgSL to make subtle semantic distinctions within the pronominal system that cannot be similarly expressed with pronouns in other sign languages. The following examples show a set of 'minimal pairs' in which the different pronouns are used to express subtle semantic distinctions:

Personal pronoun:

(6-40) TEACH **PRO$_3$**

'She teaches.'

Neutral emphatic pronoun:

         _____\<wa>

(6-40a)   TEACH **PRO₃-NEUT**

       'She herself is teaching.'

Exclusive emphatic pronoun:

         _____\<om>

(6-40b)   TEACH **PRO₃-EXCL**

       'Only she is responsible for teaching (and nobody else).'

Pejorative emphatic pronoun:

         _____\<sef>

(6-40c)   TEACH **PRO₃-PEJ**

       '(I don't help her but) she is responsible for teaching.'

Emphatic responsibility pronoun:

         _____\<o>

(6-40d)   TEACH **PRO₃-RESP**

       'She herself is responsible for teaching.'

(6-40e)   TEACH **PRO₃-HON**

       'She is teaching (and I respect her for that).'

Such data add greatly to our understanding of typological variety across sign languages, as a comparable richness of pronominal structures is not found in other sign languages. UgSL pronouns are a rich source of grammatical information and a central part of UgSL grammar; as such, they certainly deserve further study in the future.

7 INTERROGATIVE CONSTRUCTIONS

Interrogative constructions are common to both signed and spoken languages. This chapter inspects the linguistic organisation of interrogative constructions that are specific to UgSL, and makes reference to interrogatives used in other signed languages. The chapter focuses on content questions (a.k.a wh-questions), covering question signs, non-manuals, and the morphology and syntax of content questions.

7.1 Introduction and methodology

UgSL has a substantial paradigm of interrogative signs. Cross-linguistically, the size and internal organisation of question word paradigms varies widely across sign languages. As documented in Zeshan (2005b, 2006), the range of variation extends from a single generic question word, as in some dialects of IPSL, to over a dozen specific interrogative signs, as in ASL. UgSL is one of the sign languages with a large group of question signs. According to Zeshan (2005b:564-5 and 2006:55), some sign languages make use of a general interrogative with a wide range of interrogative meaning, such as occurs in the question paradigm of Kata Kolok, a sign language in Bali. Kata Kolok uses a single sign, WH-GENERAL, which can take all question word meanings apart from 'how many'. The meaning of this sign in an individual utterance is determined by the context (Zeshan 2006:55). By contrast, UgSL has a comprehensive question paradigm, including a general wh-question sign whose usage depends on context, and multiple forms for some meanings. The first discussed below (in Section 7.2.1) is WH, which can have four possible meanings: 'what', 'why', 'when' and 'how'. This sign cannot take the meanings 'who', 'which', 'where', or 'how many'. The meaning of WH in a particular utterance is distinguished through context and/or mouth gesture. Two further interrogative signs, WH-IX-$_{TWIST}$ and WH-IX-$_{SUPINE}$, are indexical and have a range of meanings discussed in Section 7.2.2, along with the specific interrogative signs WHAT and WHO; alternative questions, WHICH1, WHICH2 and WHICH3; the two forms for 'where': WHERE1 and WHERE2; WHEN and WHY. The last sub-section of Section 7.2 discusses quantity questions that involve the sign NUMBER, a non-interrogative sign used in questions involving 'how many'/'how much' (see also Section 7.3 about use of the sign NUMBER).

The chapter next considers the morphological make-up of interrogative constructions, in Section 7.3, including a distinct set of monomorphemic interrogatives, and morphologically complex question signs. Section 7.4 describes the integral use of non-manual aspects in content questions. Finally, Section 7.5 examines the syntactic patterning of interrogative constructions, beginning with an overview of the syntactic arrangement of WH-signs, as occurring in the corpus. Sub-section 7.5.2 describes the multifunctionality of interrogatives and 7.5.3 considers the use of doubling in question constructions. The final sub-section pays attention to the use of the Q-PARTICLE sign and ASK-QUESTION in relation to syntactic patterns before the chapter ends with a conclusion.

Several challenges were encountered in the attempt to draw substantiated generalisations from the data corpus and the material available in the UgSL Dictionary. For this chapter, 18 video files that contained content questions were analysed. First of all, it was not always easy to identify which interrogative was being produced in the videos, particularly if the signing speed was fast. For example, the signs WHEN and WHERE2 have phonological forms similar to the generic interrogative WH. All interrogative forms that could be identified are included in the analysis here.

Another issue concerns the glossing of interrogatives. During the process of sign language corpus annotation, it was essential to ensure each component of the sign was represented consistently in the glosses, and several glosses needed to be modified. For instance, the sign initially glossed WHEN was later glossed as TIME+WH-$_{SUFFIX}$ in order to reflect the morphologically complex structure that includes an interrogative suffix. Some of the interrogatives have unusual semantics that do not match any spoken language-based gloss. This is the case for WH-IX-$_{SUPINE}$ and WH-IX-$_{TWIST}$. After several attempts and modifications, these signs were eventually glossed based on their phonological form, as it was difficult to identify a word gloss that would reflect the complexity of their interrogative meanings.

More importantly, some early glossing decisions made it impossible to quantify the occurrence of certain forms accurately. This is true of one variant for the alternative question 'which' (glossed WHICH2 in Section 7.2); due to its form with two-handed alternating index finger pointing, it had been glossed as INDEX. As the number of signs glossed INDEX is extremely high, it was not

possible to disentangle the glosses and extract the instances of WHICH2 from among the huge number of INDEX signs. The example sentence given in this chapter is from introspection, and more directed elicitation with differential glossing may be suitable for further researching WHICH2. Similarly, the generic interrogative glossed WH also has non-interrogative uses that could not be disentangled from interrogative uses, again due to the high number of occurrences. In addition, other occurrences of the same form had been glossed as PALM-UP (see the discussion in Section 7.2.1).

Finally, identifying clause boundaries was particularly important for considering the syntactic properties of WH-signs, but it was very challenging to identify clause boundaries in a clear and consistent way. In line with work by Sandler (1999), the semantics of the utterances was the initial basis for identifying clauses, in combination with an overall change in non-manual configuration, or, alternatively, a clear pause, which were taken as indicative of a clause boundary. However, pauses are not always present where a clause boundary is assumed, and changes in non-manual configurations are not always a reliable indicator either. Eventually, the most useful approach is a combination of several factors at logically different levels that come together to identify a clause boundary, including the semantic content of the utterance, the non-manual configurations, and pauses. This approach does not work 100% of the time, but does result in a sufficient number of utterances whose clause boundaries could be identified with reasonable confidence.

Secondly, when categorising the occurrence of WH-signs as initial, final, doubled or 'other', the notion of 'in situ' syntactic position has not been used in this chapter. This is because this notion depends on first identifying the position of constituents in non-interrogative clauses, in other words, identifying the basic word order patterns in UgSL. As explained in Part II of this thesis, the considerable variability in UgSL sign order makes it difficult to make a decision about basic word order in the language. This would require syntactic tests and techniques such as grammaticality judgments and targeted elicitation, which were not within the scope of this thesis. Therefore, occurrences of wh-signs are identified as 'initial' and 'final' here without reference to the concept of 'in situ' positions, and this approach resulted in interesting generalisations (see Section 7.5).

7.2   A survey of interrogative signs in UgSL

For the analysis in this section, interrogative forms were identified in 18 corpus files and the frequency of occurrence was registered, e.g. WHAT appeared 49 times. The most frequently used interrogative signs were WHAT, WHY, and WHO, while others occurred much less frequently. Interestingly, 'what' and 'who' are also the two interrogative concepts that are regarded as most basic and that occur as lexical items in most languages, while lexicalisation of other interrogatives is less frequent (cf. Zeshan 2006). By far the highest frequency of occurrence was found for WH. The frequency of interrogatives identified in the 18 video files from the corpus is shown in Figure 7.1.
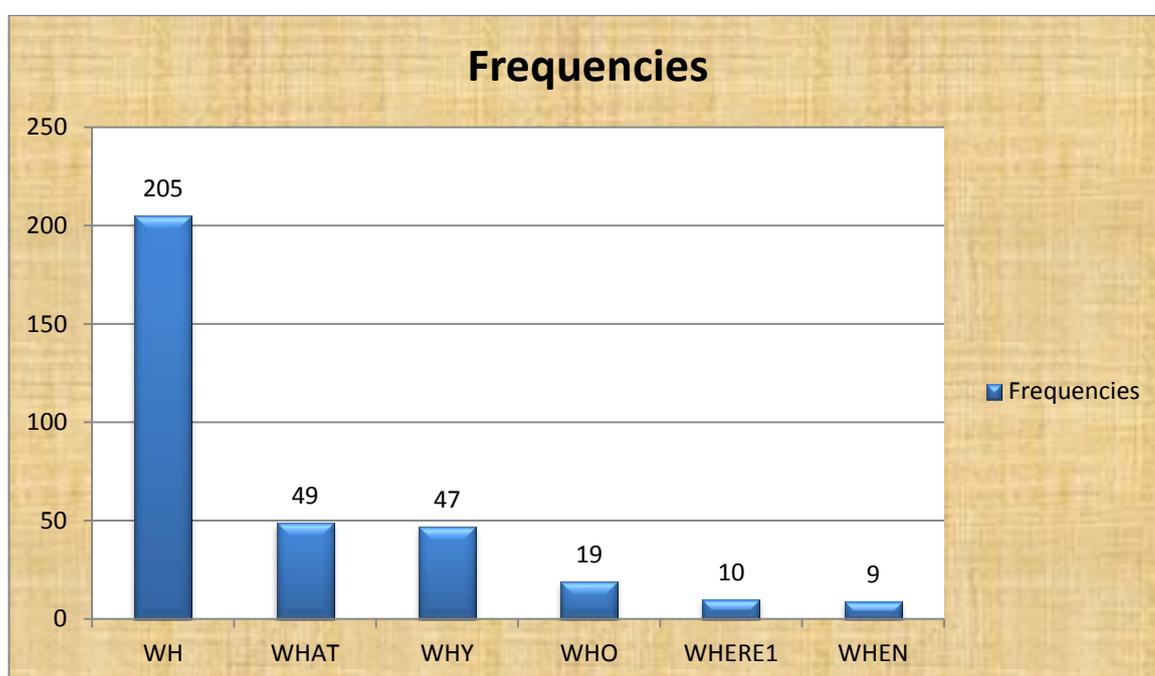
Figure 7.1: Frequency of interrogatives

As far as WH is concerned, not all of these occurrences reflect usage of this sign as a genuine interrogative. As detailed in Section 7.2.1, WH has several functions, including both interrogative and non-interrogative uses. As it is not always easy to decide which function applies in a particular utterance, the various functions of WH have not been disaggregated in Figure 7.1 and in the table of interrogative signs (Table 7.1) in Section 7.5.1 below. A more detailed future analysis of WH would have to take this into account. However, it is likely that even after such an analysis, the frequency of WH would still be higher than for the other question signs.

WHICH3 was not found at all in the corpus, which is also true of WHERE2, WH-IX-$_{\text{TWIST}}$ and WH-IX-$_{\text{SUPINE}}$. However, all these signs are included in the UgSL Dictionary (Wallin et al. 2006). For WHICH1, more analysis is needed to investigate whether this sign occurs only in specific question sentences, as it only occurred once in the corpus. By contrast, WHICH2 does occur in the data, but as mentioned in Section 7.1, it was not possible to quantify its occurrence because all signs containing index finger pointing had been glossed as INDEX. As the number of signs glossed INDEX is extremely high, it was not possible to disentangle the glosses and extract the instances of WHICH2 that were later realised as interrogatives. The example sentence given in this chapter is from introspection, and more directed elicitation with differential glossing may be suitable for further researching WHICH2.

In the following sections, the interrogative signs are grouped according to lexical and semantic distinctions, as shown in Figure 7.2. This includes one generic interrogative (glossed WH), and four types of specific interrogatives including interrogatives for entities, locational and temporal interrogatives, and a reason/cause interrogative WHY, as well as non-interrogative signs used as questions (e.g. NUMBER).
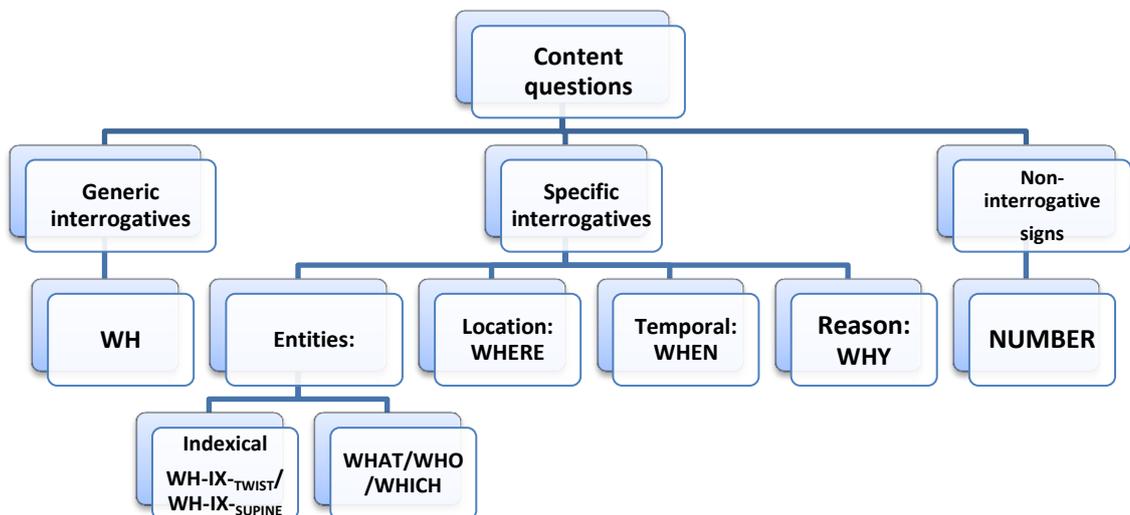
Figure 7.2: Lexical and semantic types of WH-signs

7.2.1 The generic interrogative

UgSL is one of the sign languages whose question word paradigm includes a generic interrogative, glossed WH here. The occurrence of generic interrogatives is known from other sign languages. In IPSL, a generic interrogative can be used to cover the entire range of interrogative meanings (Zeshan 2003b); that is, the interrogative is maximally generic in semantic terms. This generic interrogative is used in compounds in order to create more specific interrogative meanings, such as 'face + interrogative' for 'who' or 'place + interrogative' for 'where'. In Brazilian Sign Language, the generic interrogative covers a narrower range of interrogative meanings (de Quadros 2006). Entries in the *Dictionary of Kenyan Sign Language* (Akach 1991) indicate that one generic interrogative exists for four different question signs: 'what', 'when', 'why' and 'how' but there is no literature to examine this use further. The form of the signs appears identical, though the interrogatives may differ in the use of mouthings, <nini>, <lini>, <kwa nini> and <vipi> respectively, which may be borrowings from the surrounding Swahili language. Like other sign languages that use generic interrogatives (cf. Zeshan 2006), UgSL has one generic interrogative, described in 7.2.1.1. However, the same sign also has non-interrogative functions, and these are discussed in Section 7.2.1.2, using the alternative gloss PALM-UP.

7.2.1.1 The sign WH

WH is articulated with one or two hands, where a wrist turn results in the hand(s) held with the palm facing upwards (see Figure 7.3 below). The two-handed form is more frequent in the corpus data, whereas the one-handed forms occurs in fewer contexts and where a drop of the second hand may be motivated by informality of the situation, or by the other hand being otherwise occupied and not available for signing.

Figure 7.3: The sign WH

WH conveys the expectation of a response and expects the respondent to describe what has happened or express some other information; it is also possible to simultaneously incorporate emphasis by the addition of accompanying facial expressions. It appears from the data that the various functions of WH correlate with differences in the syntactic behaviour of the sign, and this is discussed in Section 7.5. The use of the sign WH in its various possible meanings is illustrated in the following examples (7-1, 7-2 and 7-4 are taken from the data corpus; example 7-3 is from the researcher's language intuition):

$$\underline{\text{sq}\text{br}}$$

(7-1)   r: GIRL GIRL-CHILD FUTURE PRO$_{3\text{-REF-REDUP}}$ GET WHAT **WH**

l: PRO$_3$--------

'What is the benefit for the young girl in the future?'

(Ug_amongi_akullo.eaf00:03:32-6)

(7-2)   BAMBI GIRL+CHILD BEAUTY BEST MUST BACK SCHOOL/ GIRL+SHOULDER REFUSE **WH**

'It is such a pity about the beautiful young girl; she must go to school but why does my sister not support her daughter to go to school?'

(Ug_amongi_akullo.eaf00:03:08-14)

$$\underline{\text{br}}$$

(7-3)   PRO$_2$ ARRIVE **WH**

'When do you arrive?

$$\underline{\text{br}}$$

(7-4)   CHILD GIRL+CHILD COOK **WH**

'How is the young girl's cooking?'   (Ug_amongi_akullo.eaf 00:00:01-03:05)

The general question sign WH is also used as a question particle in both wh-questions and polar questions. Whereas for wh-questions, the sign WH may be one-handed or two-handed, it is one-handed when used as a question particle (see Section 7.5.3.2 and 7.5.4 on the use of WH as a question particle). It is obvious that WH in UgSL is the result of grammaticalisation of a communicative gesture used by hearing people in Uganda. The palm-up gesture is widespread in many cultures across the world (cf. Morris 1994) and often accompanied by a shoulder shrug. Various sign languages have grammaticalised a palm-up gesture. In addition to Turkish Sign Language (TİD) as discussed in Zeshan

224

(2006), FinSL has grammaticalised this gesture into a question particle (Savolainen 2006). The same may have happened in Tanzanian Sign Language, although the evidence reported in Zeshan (2004) is very preliminary. It is clear that various sign languages have grammaticalised the same communicative gesture in different ways and along different paths. UgSL is one such case, and it would be desirable to pursue a more detailed comparison with other sign languages to gain a better understanding of the ways in which conventional gestures change when they assume grammatical functions in sign languages.

WH is used in the following example (7-5) in the form of doubling of question signs, with WH occurring second in order to add emphasis to the interrogative construction. Doubling of question signs is discussed in more detail in Section 7.5.3.

          _____br

(7-5)   FAMILY COMPLAIN/WHY POSS$_2$ LIP-READ BEFORE-PAST GOOD2/

          _____sq

CHANGE SIGN **WHY WH**

'The family complained: why was your lipreading good before and why did you change to signing?'   (Uga_diriisa.eaf 00:02:27-31)

WH also co-occurs together with other question words and this was found 205 times in the corpus data. These co-occurrence patterns are described in Section 7.5 on the syntactic behaviour of WH-signs. Moreover, it is argued in Section 7.3 on the internal morphology of interrogatives that WH is the source of an interrogative suffix that occurs in several complex WH-signs. As mentioned above, WH is a generic interrogative that can represent a limited range of interrogative meanings. More analysis, particularly of mouth gestures and/or mouthings, is required for the generic interrogative WH because over 205 tokens occurred for this form and it seemed to trigger several different meanings, including the readings 'what', 'how' and 'when'. Sometimes mouthing can disambiguate between these meanings. In examples (7-6a) and (7-6b), mouthing clarifies the intended interrogative.

        _____**<what>**

(7-6a) WORK WH

     'What is the work you are doing today?'

      _____**<how>**

(7-6b) TEACH WH

     'How do you teach?'

WH occurs with a variety of non-manuals, as exemplified in Figure 7.2 above. However, these non-manuals often do not correlate with the individual meanings of WH in any obvious way, so they cannot be used to disambiguate between the various interrogative meanings. Thus, often it is merely the context or the co-occurrence with other interrogatives that allows us to decide which interrogative meaning is intended, as the next set of examples illustrates:

                _____sq_____br___sq

(7-7)   FUTURE PRO-REF$_3$ GET **WHAT WH**

     'What will he benefit from in the future?' (Ug_amongi_akullo.eaf 00:03:26-36)

               _____sq_____br__sq

(7-8)   SIGN **WH WHAT** FOOD **WHAT** EXPLAIN **WH**

     'What are the food signs?'   (Uga_anne.eaf 00:04:23-9)

7.2.1.2   The sign PALM-UP

Although this sign has been glossed WH in the previous section because it is discussed in the context of interrogatives, it is crucial to note that this same sign also fulfils other functions. On the basis of its form, it would also be possible to gloss this sign as PALM-UP, and this non-interrogative use occurs 67 times in the corpus data, in addition to those non-interrogative uses of WH that have not been disaggregated from interrogative WH, as mentioned above. The occurrence of PALM-UP in the corpus with significant frequency reflects the fact that this sign does not merely operate as an interrogative. In addition to its function in wh-questions, the same sign also functions as a discourse marker and as a clause linker. In this respect, the sign seems to be similar to the PALM-UP sign described in Zeshan (2006:135) for TİD, which has the following range of functions:

- Generic question word
- Structuring lists of items

226

- Negator
- Linker in complex sentences
- Clause-final hesitation marker

Interestingly, the equivalent UgSL sign WH has a very similar range of functions, including the same categories of interrogative and non-interrogative meanings as listed above for TİD. The following are examples of this usage from the data; (7-9) provides an example of PALM-UP as a complex clause linker and (7-10) as a clause-final hesitation marker:

(7-9) **PALM-UP** 2h: B-$_{CL:READ-BOOK}$ STUDY-DROP SAME1 PRO$_1$/ **PALM-UP**
       TEACHER SIGN-PAUSE

  'I decided to read my book, as the teacher was signing so slowly.'

<div align="right">(Uga_sunday_jolly.eaf00:04:54-05:00)</div>

(7-10) WOMAN ONE WOMAN WH 2-$_{CL:TWO-PERSON-COME+x-1}$ GOOD2 **PALM-UP**

  'That's good that two women have come.'

<div align="right">(Uga_zirintusa_nsega.eaf00:00:22-26)</div>

In a few instances in the data, the use of WH could not be categorised unambiguously under any of the above functions. This is the case in these examples:

                      _____sq

(7-11) BUT POSS$_1$ MONEY NOT ENOUGH WHO CHILD$_{-PL}$ PALM-UP or **WH**

  'My wages are not enough to support my child (what to do?).'

<div align="right">(Uga_anne.eaf 00:05:53-7)</div>

(7-12) A: BLIND:$_{METAPHOR}$ PULL VOTE WRONG

  'It is wrong to expect people to vote blind.'

  B: **PALM-UP** or **WH**

      'Why?'

<div align="right">(Uga_amuge_amongi.eaf 00:01:52-7)</div>

7.2.2 Specific interrogatives

7.2.2.1 Indexical interrogatives for entities

UgSL has two interrogatives that cannot be easily translated into English, as their meanings are complex and do not correspond to any available question words in English. Both signs have a similar manual component, which is

comprised of one hand with the index finger pointing away from the signer. Both signs have a forward head tilt, but differ in their movement, facial expressions and mouth gestures. As these signs can point at their referents, they are preliminarily labelled 'indexical interrogatives' here (see Section 7.3.2.2 about the spatial pointing behaviour of these signs). A semantically motivated gloss corresponding to the glossing of the other WH-signs has not been attempted yet, as the semantic content of these signs needs further research to be fully understood.

- WH-IX-TWIST

This sign WH-IX-TWIST is articulated by pointing toward the location of the referent, twisting the wrist back and forth, and baring the teeth, resulting in a mouth gesture <i> (see Figure 7.4), while lowering the eyebrows. Further non-manual modification can show degrees of intensity with this interrogative.

Figure 7.4: The sign WH-IX-TWIST

(UgSLD picture sign: 889, Wallin et al. 2006)

This interrogative is used in the context of questions about entities, but has a more abstract and generic meaning than other entity question signs such as WHO and WHAT. The sign is used to ask for information about a given or presupposed entity, and it can have a negative connotation, conveying uncertainty or doubt. The referent can be a person or an object. If the referent is a person, the sign means 'who is that?', 'who are they?', 'who are you?' etc. If the referent is an object, then WH-IX-TWIST takes on a possessive sense, meaning 'whose is that?', or it can be translated as 'what is it about?'. Examples of the sign's use are given in (7-13a-b).

_____sq_____<i>
(7-13a)   (MAN) **WH-IX-TWIST**

228

'Who are you?' (with the sign pointing at the addressee)

         _____sq_____<i>

(7-13b)   BOOK **WH-IX-TWIST**

        'Whose book is that?'

- **WH-IX-SUPINE**

The second index-derived sign, glossed here as WH-IX-SUPINE, also asks for information about a given entity, either a person or an object, but without any negative connotation. Moreover, this sign not only asks about the identity and affiliation of the referent, but also about the purpose of the entity. Therefore, translation equivalents include 'why' and 'what for' in addition to 'who', 'whose', 'what' and 'what is it?'. The sign starts with the palm down, twists round, and ends with the palm up (see Figure 7.5). This sign has a mouth gesture <aai> with slightly widened eyes. Unlike with WH-IX-TWIST, there are no non-manual modifications of WH-IX-SUPINE to express the intensity of the question. The internal morphology of this sign is discussed in Sections 7.3.2.1 and 7.3.2.2.

Figure 7.5: The sign WH-IX-SUPINE (with mouth gesture <aai>)

(UgSLD picture sign: 879, Wallin et al. 2006)

The following utterances exemplify the usage of this interrogative.

        _____sq-htb

        _____<aai>

(7-14a)   COME **WH-IX-SUPINE**

        'Why have you come?'

         _____<wa>

(7-14b)   2GIFT1 **WH-IX-SUPINE**

        'Why have you given me this gift?'

7.2.2.2 Interrogatives for entities: WHAT/ WHO/ WHICH

Interrogatives that seek information about entities include signs for 'what', 'who' and 'which'. This section will explore the use of WHAT and WHO and then move to look at the 3 variants of WHICH.

- **WHAT**

The sign WHAT is articulated with the index finger of the dominant hand stroking down the right-facing palm of the other hand. The sign WHAT seems to be a loan from ASL. WHAT has a slight forward/downward head tilt (Figure 7.6).

Figure 7.6: The sign WHAT

(UgSLD picture sign: 1079, Wallin et al. 2006)

When the meaning 'what' is not subsumed under the generic interrogative WH, it can be expressed by this separate sign WHAT. Whereas WH is often used together with other interrogative forms, for instance to ask for repetition or clarification (see Section 7.4 below), WHAT is frequently used on its own. It is possible that the reason there are two ways of expressing 'what' is that one sign specifically means 'what' and cannot be used with any alternative meaning, whilst the other, more generic WH sign is also used for other interrogatives, such as 'how' and 'when'. An additional reason is that one is formal and one is informal. WHAT appears to be the more formal sign, and is rarely seen in casual settings. It also seems to occur less often overall when compared to WH. Use of these two signs for 'what' seems to be contextually determined, but the factors that govern the choice of WH versus WHAT have not been fully explored in this thesis. One factor seems to be related to what kind of response is expected. For example, sentence (7-15a) below means the signer expects a simple and concise answer, such as BEEF, whereas (7-15b) indicates that the signer wants a more general, broader and/or long-winded answer, e.g. BEEF, ORANGE and VEGETABLE.

<div align="right">_____br</div>

(7-15a)   BUY FOOD **WHAT**

           'What food are you buying?'

<div align="right">_____sq</div>

(7-15b)   BUY FOOD **WH**

           'What are all the foods you are buying?'

Similarly, (7-16) NAME **WHAT** 'what is your name?' is a request for the person's name only, whereas NAME WH is a request for the person's name and additional information about them, e.g. where they are from, what their job is, etc.

- **WHO**

In UgSL, the sign WHO consists of an index finger circling and pointing at the mouth, which should form an <o> shape (see Figure 7.7). WHO is accompanied by furrowed eyebrows, whereas some other UgSL interrogatives have raised eyebrows, and morphologically the sign is not modifiable.

Figure 7.7: The sign WHO

(UgSLD picture sign: 459, Wallin et al. 2006)

There are no number and case distinctions with WHO in UgSL, i.e., the same sign is used regardless of singular or plural interpretation, and regardless of whether WHO is the subject in the clause, as in example (7-17), or the object (see examples of WHO is both subject and object function in Section 7.5.2.1).

<div align="right">_____sq</div>

(7-17) PRO$_2$ CARPENTER GROUP BEST **WHO**

      'Who is the best carpenter in your group?'

In addition to being used as a question word, WHO is also used as an indefinite pronoun, as in example (7-18). There is limited use of WHO with this function in the data, hence further research is required to understand its use fully. This is parallel to the usage in some other sign languages, such as in the BSL family (BSL, Auslan and NZSL, cf. McKee 2006) and in KSL (Akach 1991).

(7-18) PRO$_1$ HEAR-RUMOUR **WHO** HEAR-RUMOUR+BEEN

'I have heard a rumour from someone.'   (Uga_KCb.eaf00:10:53-5)

- **Alternative questions: WHICH**

Which (or 'alternative') question signs are those used when a signer is asking his/her interlocutor to choose one of a set of options. These are used in many sign languages; e.g. three examples of alternative questions in Japanese Sign Language are given in Morgan (2006: 102). The articulation of the sign can sometimes be elongated or spread apart more depending on the number and placement of the choices. In UgSL, there are three ways to ask alternative questions, and these are glossed here as WHICH1, WHICH2 and WHICH3. Two options, WHICH1 and WHICH2, are usually available for alternative questions that allow a choice of two items; both are spatial interrogatives meaning 'which of two'. A further sign, WHICH3, is a more general interrogative with the meaning 'which of many' (see Figure 7.10 below).

- **WHICH1**

The sign WHICH1 refers to two different places and/or objects. To articulate this sign, the signer uses two flat handshapes, palm-up, and moves them up and down in alternation (see Figure 7.8). This sign also necessitates the non-manual feature of lowered eyebrows. The manual phonological parameters are identical to the sign MAYBE, but non-manual features and context can disambiguate the signs.

Figure 7.8: The sign WHICH1

As one and the same sign form has both a non-interrogative meaning 'maybe' and an interrogative meaning 'which', it could be argued that the sign should be grouped together with NUMBER as an instance of a non-interrogative sign used as an interrogative. However, unlike with NUMBER, it is not clear that the interrogative meaning 'which' is the result of adding interrogative non-manuals to a non-interrogative sign MAYBE. Therefore, WHICH1 is described here together with WHICH2 and WHICH3.

- **WHICH2**

The sign WHICH2 may be used to indicate a choice between two different people, places and/or objects (see Figure 7.9). Therefore, WHICH2 is employed in slightly different contexts than WHICH1, because it can refer to people while WHICH1 only refers to places or objects, so WHICH2 has a wider semantic extension. It was not possible to ascertain the frequency of use of this interrogative in the data (as mentioned in Section 7.2 above), but informal observation and introspection suggests that WHICH2 is possibly the most commonly used of the three WHICH signs.

Figure 7.9: The sign WHICH2

WHICH2 is very similar to the dual pronoun (PRO$_{3\text{-DUAL}}$), but it clearly has an interrogative function, as seen in example (7-19) (see Chapter 6.2.6 for further information on dual pronoun use). WHICH2 differs from the dual pronoun not only by the addition of interrogative non-manuals, but also because the pointing in WHICH2 is repeated on both hands, whereas the dual pronoun only has a single pointing movement with each hand.

_____br
(7-19) CAR LIKE **WHICH2**

'Which car do you like?'

- **WHICH3**

The sign WHICH3 appears sentence-finally and is performed by making two fists with the thumb upward, and moving them up and down alternately.

Figure 7.10: The sign WHICH3

(UgSLD picture sign: 1671, Wallin et al. 2006)

Occurrences of WHICH3 in the data are rare, as the sign tends to be used in higher-register UgSL and is a loan from ASL. It is used in more formal situations, especially where the topic is abstract, such as in example (7-20) below:

_____br
(7-20) MEETING IX-GO **WHICH3**

'Which meeting are you going to?'

It is notable that WHICH3 is not deictic (i.e. does not indicate the location of its referents), while WHICH2 and WHICH1 clearly are. This makes WHICH3 perhaps more lexically similar to the English word *which* than the other two signs. WHICH1 and WHICH2 thus differ morphosyntactically from WHICH3, as the first two signs make specific use of the signing space but the third sign may be signed in neutral space only (see Section 7.3 for further information related to the morphology of interrogatives).

7.2.2.3   Locational questions: WHERE

UgSL has two different signs to express the meaning 'where':

- **WHERE1**

Like several other question signs (e.g. WH and WHICH1), WHERE1 employs flat hands with palm-up. To articulate WHERE1 (see Figure 7.11 below), the signer moves the hands side to side, raises the eyebrows and uses a <wa> mouth gesture .

Figure 7.11: The sign variants WHERE1 and WHERE2
(UgSLD picture sign: 1079, Wallin et al. 2006)

One or two hands can be used to sign WHERE1: both options are grammatically correct but the two-handed version is rare in the data. This may be due to the fact that the two-handed version is used in more formal situations. The signs appear different in form but function and meaning remain the same. Where one hand is used, the location of the sign is often to the left (x) or right (z) of the signing space:

(7-21a)   BALL

              l: **WHERE1**+$_x$

              'Where is the ball?'

(7-21b)   BALL

              r: **WHERE1**+$_z$

              'Where is the ball?'

An identical sign exists in KSL. In UgSL, WHERE1 is more emphatic and less formal than WHERE2, which is described below.

- **WHERE2**

The UgSL sign WHERE2 (see Figure 7.11 above) uses only one hand, with an index finger pointing upwards and moving side to side and is a loan from ASL. The <wa> mouth gesture is also required for this sign. It is important to note that

if the mouth gesture is omitted, WHERE2 could easily be mistaken for a negation sign. WHERE2 is found in more formal contexts than WHERE1. Examples (7-22) and (7-23) from the data show how each sign may be used.

```
                              _____br
```
(7-22) SN:FLAVIE **WHERE1**

    'Where is (my sister) Flavie?'   (Ug_sty_flavie.eaf00:07:32)

```
                              _____br
```
(7-23) PRO$_2$ IX-GO **WHERE2** PRO$_2$

    'Where are you going?'   (Ug_mulesa_akol.eaf00:00:10)

- **WHERE-FROM**

In addition to WHERE1 and WHERE2, UgSL also has a cross-linguistically unusual locational interrogative that has an ablative meaning, 'where from', although a sign with the same meaning is also seen in Israeli Sign Language (Meir 2004).[36] Unlike some spoken languages that have larger paradigms of locational categories, with allative '(where) to', ablative '(where) from', etc. (cf. Fillmore 2004:1127), UgSL only has a single sign WHERE-FROM. UgSL signers can ask where a person is from by using this sign, which can be performed with either one hand or two hands. The manual movement of this sign includes a wrist twist similar to that of the WH-IX-$_{SUPINE}$ sign, but WHERE-FROM uses a flat handshape rather than a pointing handshape (see Figure 7.12 below). For the two-handed version, both hands make the same movement.

---

[36] There is also an entry in the dictionary of KSL for a sign meaning 'where from'.

Figure 7.12: The sign WHERE-FROM

(UgSLD picture sign: 645, Wallin et al 2006)

Non-manual features are also crucial for this sign: the signer raises his or her eyebrows and uses the mouthing <fawa> (from English 'from where'). An example sentence using WHERE-FROM is as follows:

```
_____br
                    _____<fawa>
```
(7-24) COME PRO$_2$ **WHERE-FROM**

'Where have you come from?'

7.2.2.4   Temporal questions: WHEN

The UgSL sign WHEN is used in all questions about time. Unlike in many other sign languages, there are no semantic distinctions. Spanish Sign Language differentiates temporal interrogatives according to tense ('when in the past' vs. 'when in the future'), while Indo-Pakistani Sign Language (IPSL) and Turkish Sign Language (TiD) make a different distinction between asking about the date ('when/what day') and asking about clock time ('when/what time') (Zeshan 2006). In Japanese Sign Language, the same handshape with internal movement that is used in the quantitative interrogative 'how many' is used in temporal interrogatives with distinct places of articulation for 'time of day' and 'date' type questions (Morgan 2006). UgSL makes no such distinctions, and uses WHEN in all temporal questions. WHEN is a morphologically complex sign (see Section 7.3).

The UgSL sign WHEN is produced by touching the top of the wrist with the index finger; the finger is then pulled away with a twist of the wrist. There are two variants for this – one involves retaining the index finger handshape (glossed as WHEN – see Figure 7.13), and in the second variant the handshape changes into an open palm, as in the generic WH interrogative. Both variants co-occur with an <ower> mouthing (from English 'when').
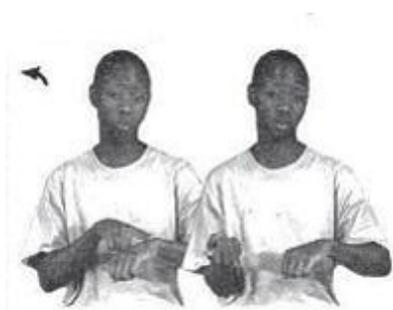
Figure 7.13: The sign WHEN

(UgSLD picture sign: 2177, Wallin et al. 2006)

As argued in Section 7.3, this sign is based on a combination of TIME and WH (or WH-IX if the index finger handshape is retained). This combination is similar to signs in other sign languages, such as IPSL, which uses the sign TIME plus a generic interrogative sign (i.e. the compound TIME+INTERROGATIVE) to mean 'when' (Zeshan 2006: 54). More information about the internal morphology of WHEN is provided in Section 7.3 on the morphology of the WH-suffix.

7.2.2.5   Interrogative of reason: WHY

WHY occurred quite frequently in the data and is another loan sign from ASL. The sign consists of a flat handshape touching the side of the head and then closing (see Figure 14 below). Also, like some of the aforementioned signs, WHY often co-occurs with the <wa> mouth gesture. For greater emphasis, WHY can be articulated with squinted eyes and a forward movement of the head and shoulders. Alternatively, WHY may be accompanied by raised eyebrows; this is more common in polite, formal contexts.

Figure 7.14: The sign WHY

(UgSLD picture sign: 32, Wallin et al. 2006)

An example of how WHY is used in context is as follows:

238

<div align="center">_____br___[shrug]</div>
<div align="center">____<wa></div>

(7-25) PRO$_2$ $_2$COME$_1$ **WHY**

    'Why have you come here?'

As this example clause indicates, WHY usually appears sentence-finally, but in rare cases it may occur clause-initially or at both the beginning and end of a sentence (see Section 7.5.2.2).

7.3 Non-interrogative signs as questions

The basic way to articulate questions about quantities in UgSL, equivalent to the English 'how much' or 'how many', is via the non-interrogative sign NUMBER. This sign is articulated with the palm facing inwards and a repeated movement of the fingers as the hand moves sideways. (For further information, see Section 5.4.2.1 in Chapter 5 on number and quantification, and Figure 5.24 in that section.) This sign often appears after signs denoting quantifiable concepts such as AGE, as described below.

- **'How-many' questions with NUMBER**

For questions about the number of entities (i.e. quantity), the sign NUMBER is used. To ask 'how many?' the sign NUMBER appears at the end of the sentence, after the noun phrase. Non-manual features are mandatory in generating an interrogative utterance of this type. These features include the mouthing <amai> and raised eyebrows. To ask how old somebody is, or what time it is, the NUMBER sign is used after AGE or TIME, respectively. Examples (7-26) and (7-27), provided below, are sentences showing this sign in context:

<div align="center">____<amai></div>

(7-26) BOY PRO$_3$ AGE **NUMBER**

    'How old is that boy?'

<div align="center">____<amai></div>

(7-27) TEETH-IX **NUMBER**

    'How many teeth do you have?'

While the sign NUMBER 'how many' is a single lexeme, there is also a compound MONEY+NUMBER, that derives from the signs for 'money' and 'number' and is used in the context of prices. This compound always appears at the end of the clause, after the noun phrase, and is accompanied by the mouth gesture <amuh> and an eyebrow raise which is much briefer than the one for 'how many'. Example (7-28) below shows how this sign is used in context:

                     _____<amuh>

(7-28) PAY BRA **MONEY+NUMBER**

      'How much does this bra cost?'

7.4   Morphology of interrogative signs

Data in the corpus reveal use of both mono-morphemic and morphologically complex interrogatives in UgSL. For this reason, in this section interrogative signs are grouped according to this morphological distinction, monomorphemic interrogatives and morphologically complex constructions, such as the WH suffix and spatial modifications (including indexical and reduplicated interrogatives).

Figure 7.15 is a schematic representation of the various morphological possibilities found in wh-interrogatives in UgSL, including both derivations and inflectional processes that can be applied to various interrogatives.
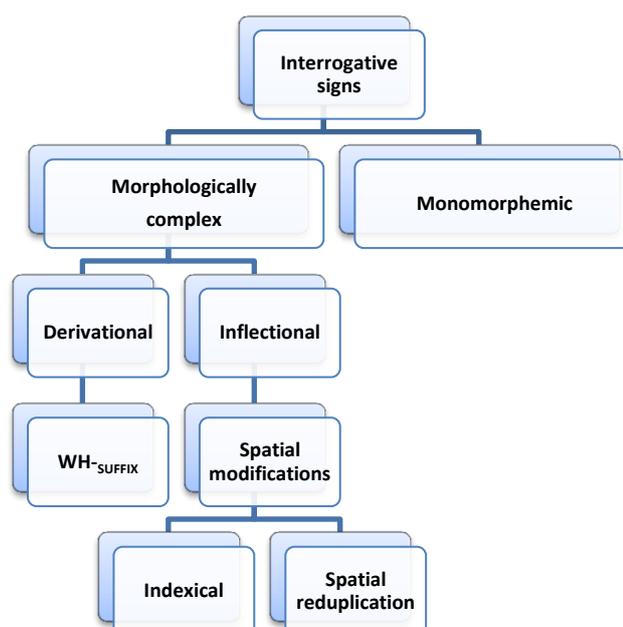
Figure 7.15: Morphological types of interrogative signs

7.4.1 Monomorphemic interrogatives

The UgSL interrogatives that have no morphological modifications and are noted as monomorphemic are WHICH3, WHO and WHY. Interestingly, all of these are identical to ASL signs, and it can be posited that at least WHICH3 and WHY are loans from ASL (see Section 7.2.2).

With respect to WHO and WHY, these interrogatives are morphologically restricted due to being body-anchored. Unlike morphologically complex interrogatives, WHO and WHY cannot move in the signing space around the body and therefore are not subject to spatial reduplication, or other morphological processes. The classification as monomorphemic requires confirmation through further research, as the simultaneous articulation of non-manual features/body shifts may contribute morphologically to the interrogatives; however, so far the evidence of the present research suggests that these interrogatives are not morphologically complex.

7.4.2 Morphologically complex signs

Interrogative signs may be morphologically complex and UgSL makes use of both derivational and inflectional processes with regard to interrogative constructions, as illustrated below.

7.4.2.1 WH-SUFFIX

WHEN and WHERE-FROM, and possibly also WH-$_{\text{IX-SUPINE}}$, form a small sub-paradigm of signs that are morphologically complex and include an interrogative suffix. Using a process of sign formation through affixation, these interrogatives involve a combination of the signs TIME, COME and the index respectively, and a WH-$_{\text{SUFFIX}}$ derived from the generic interrogative WH. WH-$_{\text{SUFFIX}}$ is articulated with palm-up orientation in neutral space, with an open handshape or with assimilation of the handshape of the preceding sign. The interrogative WH-$_{\text{SUFFIX}}$ is transparently related to the sign WH that was described in Section 7.2.1 above; WH-$_{\text{SUFFIX}}$ has evidently grammaticalised from the sign WH as it has undergone phonological depletion and assimilation processes whereby it has become attached to the preceding sign. This grammaticalised form of the generic palm-up WH has become attached as a suffix to the signs TIME and COME in the following way:

- TIME+WH-$_{SUFFIX}$ → 'when?'

The form of this sign has been depicted in Figure 7.13 in Section 7.2.2.4. The two variant forms described in this section show two successive stages of phonological assimilation of WH-$_{SUFFIX}$ to the preceding sign TIME. In the variant with final open handshape, the handshape of the source sign WH is retained. There is phonological reduction, as the suffix is obligatorily one-handed. In the second variant of TIME+WH-$_{SUFFIX}$, the handshape of the suffix is assimilated to the handshape of TIME, so that the entire complex sign has a handshape with extended index finger.

- COME+WH-$_{SUFFIX}$ → 'where from?'

As shown in Figure 7.11 in Section 7.2.2.3, the sign meaning 'where from' is still visibly a combination of COME and WH. It cannot be decided whether the handshape of WH is from the source sign or assimilated to COME, as both signs have an open handshape to begin with. However, it can be noted that again, WH-$_{SUFFIX}$ is one-handed whereas WH is most frequently two-handed. Evidence for the morphological status of WH-$_{IX\text{-}SUPINE}$ (Figure 7.5 in Section 7.2.2.1) is more ambiguous as this sign is highly fused formationally, consisting of an index finger handshape with a change in hand orientation. However, the final configuration is the same as in one variant of TIME+WH-$_{SUFFIX}$. Moreover, assuming that the sign is based on index finger pointing and the generic WH-sign can help to account for the sign's complex semantics, resulting in meanings such as 'what is this?' or 'what is this for/about?' (that is, 'this' (IX) + 'what' (WH)). Thus although the sign itself has a greater degree of fusion than TIME+WH-$_{SUFFIX}$ and COME+WH-$_{SUFFIX}$, it is included here as a possible instance of the WH- $_{SUFFIX}$, with the caveat that further research is necessary to confirm this.

- IX+WH-$_{SUFFIX}$ → 'what/who is this (for/about)...?'

There is some literature on the occurrence of affixes in other sign languages (e.g. Meir 2004, on sense prefixes in Israeli Sign Language, ISL). Zeshan (2006) examines affixation in negative and interrogative constructions in sign languages, finding a preference for negative suffixes and, as yet, no attested case of a sign language with negative prefixes. In the case of interrogatives,

however, there remains a scarcity of documentation of WH suffixation in other sign languages that would be similar to the WH-_{SUFFIX} in UgSL. Meir (2004) calls a very similar construction 'complex question words' in ISL. Even more unusual is the use of the UgSL WH-_{SUFFIX} attached to a preceding interrogative to articulate emphasis:

- WHAT+WH-_{SUFFIX} → (emphatic) 'what?'

In this case, addition of the WH-_{SUFFIX} does not result in another interrogative with a new meaning, but the suffix merely serves to emphasise the preceding interrogative.

WH-_{SUFFIX} is derivational in nature, as it attaches to a few selected signs only, changes the meaning of the preceding sign, and changes the sign class by forming interrogatives from other signs. The grammaticalisation process proceeds along similar lines as the grammaticalisation of negative morphemes as discussed in Chapter 8, and the relevance of grammaticalisation to UgSL morphology theory is explored in more detail in that chapter.

7.4.2.2   Spatial modifications

The two interrogative signs containing WH-IX make use of spatial morphology including locus marking, dual and distributive forms in UgSL. WH-IX-_{SUPINE} and WH-IX-_{TWIST} are deictic, i.e. they point toward the object or person to which they refer, as in example (7-29), where the referent locations of BOOK and WH-IX-_{SUPINE} agree with each other.

    _____sq
       _____<aai>
(7-29) BOOK_{+x} **WH-IX-_{SUPINE+x}**
    'Why is that book there?'

WH-IX-_{SUPINE} also makes use of spatial distribution for different locations in example (7-30). A further example of spatial modification in UgSL is WH-IX-_{TWIST-DUAL}: like WH-IX-_{SUPINE}, this sign can also point towards referent locations in the available signing space. In (7-31), a two-handed form of WH-IX-_{TWIST} is

used with both hands simultaneously pointing to two locations, thereby forming a dual.

(7-30) **WH-IX-**_{SUPINE-DISTR}

‘What for/why did they come here?’

(7-31) **WH-IX-**_{TWIST-DUAL}

‘Who were those people to the left and the right?’

In addition, the locus morpheme can be incorporated into all interrogative signs except the monomorphemic signs described above, and locus marking occurs particularly with WHAT, WHERE1, WHERE2 and WHICH1/2. Example (7-32) demonstrates the distributive use of space with WHERE1, and this is also possible with WHERE2. However, the use of dual would be ungrammatical with WHERE1. Note that WHICH1 and WHICH2 are lexicalised dual forms, as they specifically mean ‘which of two’ (see Section 7.2.2.2).

(7-32) BOOK **WHERE1-**_{DISTR}

‘Where (in which places) were the books situated?’

As locus marking and non-singular forms are inflectional categories in UgSL (see Part II and Chapter 5), the spatially modified interrogative forms are considered inflectional, as they follow the same paradigms as other UgSL signs inflected for non-singular and/or locus.

7.5 Non-manual aspects

As discussed in Part II, Section 4.6., many grammatical functions are marked by non-manual expressions that co-occur with the manually produced signs, and the role of non-manuals occurring with wh-signs is vital (see Zeshan 2006: 39-46; Herrmann & Steinbach 2011 on non-manual marking). The sections above have shown that interrogatives in UgSL are accompanied by a variety of non-manual features, including mouth shapes and eyebrow movements. In some cases it is the addition of non-manual features that establishes an utterance as a question rather than a statement, for example when using NUMBER in quantification questions. Some mouth gestures (e.g. bared teeth <i> for WH-IX-_{TWIST}) are just as essential as eyebrow movements, and co-occur with other

non-manual features for the correct articulation of UgSL wh-questions. If an obligatory mouth gesture is omitted, for example, the resulting utterance will be ungrammatical. The following sub-sections detail the occurrence of mouth gestures, mouthing, and eyebrow position with the individual wh-signs discussed in the above sections, as well as the use of syntactic non-manuals that can spread over other signs in the clause. The distinction between lexical and grammatical non-manuals as posited in Part II, sub-Section 4.6.1, is relevant to the discussion below.

7.5.1 Mouth gestures and mouthing

Both mouth gestures and mouthings occur with interrogative signs in UgSL. One difference is that mouth gestures are obligatory, whereas most mouthings are optional. WH-IX-$_{TWIST}$ and WH-IX-$_{SUPINE}$ have mouth gestures (<i> and <aai> respectively) that constitute an obligatory formational parameter of the signs and cannot be left out. Among the various mouthings that have been mentioned in Section 7.2 as co-occurring with WH-signs, only the sign WHO has an obligatory mouthing <o> (presumably from English 'who'). However, it could be argued that, as this mouthing only consists of a single mouth shape, it is formationally much more similar to mouth gestures than some of the other mouthings found with UgSL interrogatives. The obligatory mouth shapes are an example of non-manuals functioning at the lexical level, as they are specific to the individual signs they co-occur with and cannot spread to other signs.

Other mouthings found in UgSL interrogatives are optional. Many of the mouthings are shortened imitations of lip patterns originating from English source words, as listed here together with the source items:

<wa>   'where' or 'why'

<fawa>   'from where'

<amai>   'how many'

<amuh>   'how much'

WH does not seem to occur with either mouthing or mouth gestures. Mouthings from spoken languages other than English have also not been found in the corpus.

7.5.2 Eyebrow movements

In UgSL, both raised eyebrows and furrowed brows with squinted eyes appear in wh-questions, and this non-manual marking can spread beyond the individual wh-sign, to part of the clause or the whole clause. In the prototypical case, lexical non-manuals would be specific to individual wh-signs and not spread over the clause, and syntactic non-manuals would be consistent across all wh-signs (although there may be more than one configuration) and be able to spread over the clause. This is the pattern typically found in many sign languages (see Zeshan 2006).

However, UgSL seems to fall somewhere in between these prototypical cases with respect to eyebrow movement. In UgSL, we find the following types:

(a) There is a particular eyebrow movement that must co-occur with a specific individual sign, and the eyebrow movement cannot spread to the rest of the clause. This is the case with WH-IX-$_{TWIST}$ and WH-IX-$_{SUPINE}$. WH-IX-$_{TWIST}$ contains compulsory articulation of furrowed brows and squinted eyes; WH-IX-$_{SUPINE}$ is articulated with brows moving from initially raised to lowered and eyes from initially opened to squinted; there is also a backwards tilt of the head. With both of these interrogative signs, the non-manual features typically occur at the point of the question marker or just before and their scope is therefore limited.

(b) The interrogative WHY always has lowered brows and squinted eyes, but in this case, the non-manual marking can spread over the clause. It is only the choice of eyebrow movement that is constrained, but not the scope of the non-manual.

(c) For other interrogatives, the accompanying non-manual features typically include raised eyebrows and opened eyes and can spread across the whole interrogative construction, though there is evidence in the data that the non-manual features also occur at the point of the interrogative marker only, for instance, occurring together with a clause-final WH only. There are also some incidences in the data of WH as a content question articulated with brows furrowed and squinted eyes; this appears to be motivated by the demand for specific content information. Further research is needed to examine this motivation in more depth.

It may be possible to argue that the eyebrow movements under a) are part of the signs' phonology in the same way as the mouth gestures discussed in Section 7.4.1. In fact, it is interesting that the same signs that have obligatory mouth gestures/mouthing also have obligatory eyebrow movements that are different from the typical content question non-manuals in UgSL. On the other hand, lowered eyebrows that accompany WHY do spread over the clause, and there is no reason to analyse them differently from raised or lowered eyebrows occurring with WH, for example.

As this chapter has focused primarily on WH-signs and their use, a more sophisticated analysis of syntactic non-manuals that may or may not unify these observations is not attempted here and is left to future research. The scope of syntactic non-manuals in questions including content questions has been of importance in the context of intense debate regarding the structures of wh-questions, in particular the issue of wh-movement. Petronio & Lillo-Martin (1997) and Fischer (2006) have studied wh-movement in ASL but the space in this thesis does not permit in-depth analysis of this nature. Fischer (2006:172) claimed that, in ASL, 'the controversy seems to center around the issue of whether the material that is being questioned must be topicalised in order to block the spread of the NMF'. Detailed analyses of such relationships between non-manual marking in questions and syntactic structures of interrogative clauses, where non-manuals contribute crucial evidence for the syntactic status of clauses, are beyond the scope of this thesis.

Research on UgSL is not advanced enough yet for a more sophisticated analysis of syntactic non-manuals, involving, for instance, techniques such as grammaticality judgments, so this chapter merely notes the patterns found in the data corpus. Section 7.5 includes examples of non-manuals in content questions, both with spread over the whole clause and with limited scope over a question word only. Moreover, UgSL has a range of other interesting phenomena with regard to syntactic constructions with question words, such as co-occurrence patterns of specific and general interrogatives, and multiple grammatical status of one and the same question word. Section 7.5 focuses on these constructions, and only makes additional comments on non-manuals where they seem relevant to supporting the argumentation.

7.6 Syntax of WH-signs

7.6.1 Overview

The analysis of the corpus shows that while the positioning of interrogative signs is subject to some variation, there is a strong preference in UgSL for clause-peripheral placement of WH-signs. This is in line with what has been observed in other sign languages (cf. Meir 2004; Zeshan 2006). Both initial and final syntactic positions are attested in the corpus data, but the relative frequencies vary across individual interrogatives. Both doubling of WH-signs and combinations of a generic and a specific WH-sign occur in the data with some frequency. These observations are explained in more detail in the sub-sections below where relevant. An example of non-manuals at the syntactic level is presented below in (7-33), with fully raised eyebrows from start to end of the interrogative clause.

_____br

(7-33) FOOD MATOOKE **MONEY+NUMBER**

‘How much does the Matooke cost?’

In Table 7.1, the interrogative forms found in the 18 video files under analysis here have been grouped according to whether they were clause-initial, clause-final, or doubled. A few instances in the data do not fit into one of the categories and are listed under ‘other’. Overall, the clause-final group was the largest, and often the WH-sign was preceded by a verbal predicate.

Interrogative	Clause-final	Clause-initial	Doubling	Other
WH	160/205 (78%)	17/205 (8%)	22/205 (11%)	6/205 (3%)
WHAT	41/49 (84%)	4/49 (8%)	3/49 (6%)	4/49 (8%)
WHY	28/47 (60%)	11/47 (23%)	3/47 (6%)	5/47 (11%)
WHO	9/19 (47%)	5/19 (26%)	1/19 (5%)	4/19 (21%)
WHEN	4/9 (44%)	3/9 (33%)	0/9	2/9 (22%)
WHERE1	8/10 (80%)	2/10 (20%)	0/10	0/10

Table 7.1: Interrogative signs and their position in the clause

In the sub-sections below, further comments on the positioning of WH-signs are made where relevant.

The following sub-sections identify syntactic patterns that are of particular interest with respect to individual question words in UgSL. This includes multifunctional uses of the interrogatives WHO, WHY, and WH, as well as instances of multiple WH signs within one clause, which involve either doubling of the same question word or a combination of a generic and a specific question word. Finally, Section 7.5.4 describes the syntactic properties of Q-PARTICLE in comparison with its lexical source sign ASK-QUESTION.

7.6.2 Multifunctionality of interrogatives

7.6.2.1   WHO

The UgSL corpus data include 19 instances of the interrogative WHO, and this question sign shows more variability of ordering of the predicate and its arguments than some of the other question signs, as well as having more than one grammatical function. WHO occurs regularly in the data in both initial and final positions. In most cases, WHO is functioning as the subject of the clause, as in examples (7-34) and (7-35).

Subject function in clause-initial position:

(7-34) **WHO** STAY GUARD CHILDREN

      'Who guards the children at their home?'

Subject function in clause-final position:

(7-35) GROUP BEST **WHO**

      'Who is the best in the group?'

However, there are also examples, though few, in the data with WHO in object function. Here it seems that WHO can also appear either initially or finally, as shown in examples (7-36-9).

Object function in initial position:

(7-36) **WHO** CALL

      'Who (should we) call?'

(7-37) **WHO** CAN SELECTION

'Who (of them) can be selected?'

Object function in final position:

(7-38) PAY **WHO**

'Who do we pay?'

In addition, doubling of the WH-sign is observed with WHO in the data, unlike for a number of other question words that do not show any instances of doubling in the corpus (see Section 7.5.3 below).

Interestingly, WHO in UgSL can also function as an indefinite pronoun. This is exemplified by the following utterance from the data (see same example in 7-18 above):

(7-39) PRO$_1$ HEAR-RUMOUR **WHO** HEAR-RUMOUR+BEEN

'I have heard a rumour from someone.'

Here the female signer talking about the rumour is clearly not asking a question, but is using the sign WHO as an indefinite pronoun, intending to say that there is someone from whom she has heard the rumour. This dual function of WHO as both question word and indefinite pronoun is not unique to UgSL, as it is found in other sign languages too. For instance, BSL, Auslan and NZSL all use the sign for 'who' as an indefinite pronoun 'someone' (see Sutton-Spence & Woll 1999; McKee 2006:81; Zeshan 2006). A close relationship between interrogative and indefinite uses is a known pattern that is well-attested in spoken languages (Bhat 2000).

7.6.2.2   WHY

There are 47 occurrences of the sign WHY in the UgSL corpus and this includes three different functions:

a) WHY as an interrogative in information-seeking questions. Naturally, this occurs more often in the dialogue data.

b) WHY in rhetorical questions, where the signer is not expecting an answer but uses the question as a rhetorical device, posing the question and then immediately answering it him/herself (cf. Wilbur 1995). This occurs particularly in monologues but also in dialogues.

c) WHY clause-initially as a conjunction meaning 'because'.

In this section, these various uses of WHY and their relationship with each other are discussed. Examples (7-40) and (7-41) show the use of WHY in information-seeking questions where the signer expects a response from an interlocutor. WHY can be either clause-initial or clause-final, as the examples show.

Context: the participant is discussing the need for teachers to be able to sign and is questioning the reason a hearing teacher is there.

               _____br

(7-40) **WHY** TEACHER (HEARING)

     'Why is the teacher hearing?'   (Uga_anne.eaf 00:03:13)

Context: the participant is seeking information as to why the organisation, which is heavily involved in campaigning and Deaf rights, is so popular.

                  _____br

(7-41) UNAD INTEREST **WHY**

     'Why are UNAD so interesting?'   (Uga_int_max eaf 00:05:59)

The following set of examples (7-42-3) illustrates the use of WHY as a rhetorical question (accompanied by non-manuals glossed rh-q). In these examples, the answer is given by the same signer, immediately after the question.

               __rh-q

(7-42) UNAD INTEREST **WHY** / DEAF MANY SUFFER

     'Why is UNAD so interested (in advocacy and campaigning)? It is because deaf people are suffering.'   (Uga_int_max eaf 00:05:59-06:03)

               __rh-q

(7-43) TALK GOOD1 **WHY** / UGANDA CONSTITUTION

     'Why was it such a good talk? It's because it was about the Uganda constitution.'

By contrast, in the next set of examples WHY is clause-initial and is used as a conjunction.

251

       _____br___<o>

(7-44) **WHY** DEAF LEARN WHAT WAT[37]

    'This is why deaf people have a low level of education.'

<div align="right">(Uga_int-max.eaf.00:03:56-8)</div>

(7-45) **WHY** DRIVER SIT LOOK

    'That's why the man asked me to look at the driver.'

<div align="right">(Uga_int-max.eaf.00:04:04-6)</div>

(7-46) SISTER **WHY** WANT OPPRESS

    'It's because my sister wants to put me down.'

<div align="right">(Ug_amongi_akullo.eaf.00:00:53-5)</div>

As the translations into English show, WHY in these instances is equivalent to English 'that's why' or the conjunction 'because'. In its function as a clause introducer, WHY often co-occurs with the sign BECAUSE (see Figure 7.16 below), and both signs will often occur clause-initially, as in examples (7-47) and (7-48):

(7-47) WHY **BECAUSE** WOMAN WANT BEER

    'The woman is drinking beer because she likes it.'

<div align="right">(Ug_mulesa_makumai.eaf.00:03:01-3)</div>

(7-48) r: BUT   FAMILY   ALL   SIGN-FLUENCY   **WHY**   **BECAUSE**
        HEARING THREE1

    l: DEAF FIVE1

    'My family are all fluent signers because five of us are Deaf and three are hearing.'   (Uga_lule_akomele2.eaf00:14:32-9)

Figure 7.16: The sign BECAUSE

---

[37] See the negation chapter, Section 8.2.2, Figure 8.5 for a description of the sign WAT.

In contrast to BECAUSE, WHY as an interrogative has a wider range of available syntactic slots. Across sign languages, it is relatively common to use a sign for 'why' as a non-interrogative clause introducer in the meaning of 'because'. This is one of the interrogative/non-interrogative combinations of functions that are listed as frequent across sign languages in Zeshan (2004; 2006). For example, ASL and BSL have the same pattern, where a sign WHY is used as a non-interrogative clause introducer. However, UgSL also has the separate sign for 'because' which may co-occur with WHY, and this makes UgSL different from other sign languages. In the following examples from the data, BECAUSE is used to connect the clauses:

(7-49) WANT GET SKILL/ UPGRADE SEARCH OTHER JOB/ PALM-UP
BECAUSE PRO$_1$ AGE MIDDLE-YOUNG

'I want to gain academic qualifications and look for another job because I'm still rather young (i.e. because I have plenty of time to learn a new career).'   (Uga_lule_akomele2.eaf00:17:39-46)

(7-50) STUDENT ALL MUST READ SERIOUS **BECAUSE** EXAM POSS$_{2\text{-PU}}$

'All of the students must take their studying seriously, because they have an exam.'

It is argued here that the three uses of WHY are related to each other and that the use of WHY as a conjunction has developed from the genuine interrogative via its use in rhetorical questions. This notion is supported by the UgSL data. Consider, for instance, example (7-51) below:

(7-51) **BECAUSE**… DEAF DRIVER WHY / EXAMPLE...

'Because, that's why deaf drivers are employed; for example...'

'Because, deaf drivers are employed, why is that? For example...'

In this utterance, BECAUSE and WHY actually co-occur in the same clause. This is relevant because it is indicative of an intermediate status of WHY. WHY is not used as a conjunction here because it is not in the typical clause-initial position, which is already occupied by the alternative conjunction BECAUSE. However, WHY does not function as a genuine interrogative either, and in fact, this would be somewhat incongruous semantically with the occurrence of

BECAUSE in the same clause. Therefore, it can be argued that example (7-51) is an incidence of indeterminate usage of WHY. This is also underscored by the two alternative translations into English that are both equivalent to the meaning of this UgSL utterance. Example (7-52) is another instance of WHY co-occurring with BECAUSE. In this case the rhetorical question that ends in WHY is immediately answered by the same signer using the clause-initial conjunction BECAUSE:

(7-52) TRUE WHY/ **BECAUSE** WOMAN WANT BEER

'That's right…it's because the woman likes to drink beer.'

(Ug_mulesa_makumba.eaf 00:03:00-3)

The shift from clause-final interrogative WHY to clause-initial conjunction is not difficult to conceptualise once rhetorical questions with immediately following answers are recognised as the bridge context facilitating this grammatical transition. Consider the minimal-pair-like examples (7-53a-c) below. Example (7-53b) is from the data, but (7-53a) and (7-53c) are also grammatical in UgSL.

Interrogative:

           _____br

(7-53a)   UNAD INTEREST **WHY**

          'Why is UNAD interested?'

Rhetorical question:

                        __rh-q

(7-53b)   UNAD INTEREST **WHY** / DEAF MANY SUFFER

          'Why is UNAD interested? (Because) many deaf suffer.'

Conjunction:

(7-53c)   UNAD INTEREST **/** WHY DEAF MANY SUFFER

          'UNAD is interested because many deaf suffer.'

As these examples illustrate, the indication in (7-53c) merely requires re-analysis of (7-53b) in terms of where the clause boundary lies and it is the use of facial expression that indicates which analysis applies. Sentence (7-54c) below employs the same construction with WHY functioning as a conjunction as in example (7-53c) above. This kind of re-analysis, via an intermediate context that acts as a bridge between two different constructions, is a known

phenomenon in grammaticalisation theory (e.g. Heine & Kuteva 2002; Narrog & Heine 2011). Another way of considering the change in status of WHY is suggested by the examples in (7-54), where (7-54a) includes a conjunction BECAUSE, co-occurring with WHY as described in (7-42) above. The steps towards re-analysis here would involve ellipsis of BECAUSE (7-54b) and a shift of the clause boundary (7-54c). Note that the English translation of (7-54b) below suggests that there is an implicit meaning 'because', which is overtly expressed in (7-54a).

Rhetorical question with following conjunction BECAUSE:

                                          __rh-q

(7-54a)   UNAD INTEREST WHY / **BECAUSE** MANY DEAF SUFFER

                'Why are UNAD so interested? It is because many deaf people are suffering.'

Ellipsis of BECAUSE:

(7-54b)   UNAD INTEREST **WHY** / MANY DEAF SUFFER

                'Why are UNAD are so interested? Many deaf people are suffering.'

Re-analysis of clause boundary:

(7-54c)   UNAD INTEREST **/** WHY MANY DEAF SUFFER

                'UNAD are very interested in this because many deaf people are suffering.'

In either case, the main steps in this re-analysis process are the same, and this process and the characteristics of each 'stage' in the re-analysis are illustrated in Table 7.2.

Clause type	Content question → Rhetorical question → Complex clause with conjunction		
Example	UNAD INTEREST WHY	UNAD INTEREST WHY / DEAF MANY SUFFER	UNAD INTEREST / WHY DEAF MANY SUFFER

Clausal structure	Single interrogative main clause	Two separate main clauses	One complex sentence consisting of main and subordinate clause
Function of WHY	Interrogative	Interrogative	Conjunction

Table 7.2: Characteristics of re-analysis stages

7.6.3 Doubling of question signs

7.6.3.1 Doubling of the same question sign

Doubling of question words does not occur with all interrogatives in the data and is relatively rare in the UgSL corpus (see Table 7.1 in Section 7.5.1). The only instances of doubling are those involving one of the following question signs:

WH

WHAT

WHO

WHY

In most cases, the doubling occurs at the beginning and at the end of the interrogative clause. WH occurs with doubling far more often than the other interrogatives, and it also occurs in combination with other interrogatives, particularly with WHY (see Section 7.5.3.2).

Examples:

      _____br

(7-55) **WHY** TEACHER PA **WHY**

      'Why does the teacher have nothing to do?'

     _<how>   _<how>

(7-56) **WH** PRO$_2$ ALONE **WH**

      'Why are you alone?'

      _____sq

(7-57) **WHO** CAN WIN **WHO**

      'Who do you think can win?'

None of the other question words show any instances of doubling in the corpus but the following examples would be considered strange or ungrammatical according to the researcher's native user intuition:

(7-58) *WHEN POSS$_2$ PARTY WHEN

'When is your party?'

(7-59) *WHERE POSS$_{2\text{-}IX}$ STAY WHERE

'Where are you staying?'

In Table 7.1, both doubling of the same question sign and WH in combination with another question sign are subsumed under 'doubling', resulting in 22 instances (11%) of WH doubled or in combination with another interrogative. Multiple content questions that include two different interrogatives within the same clause did not occur in the corpus data.

7.6.3.2   WH in combination with other question words

WH can occur in instances of 'doubling' that involve a combination of WH and another, specific interrogative. It seems that in these cases, WH does not provide an additional interrogative meaning, but reinforces the interrogative expressed by the specific question word. In other words, such constructions are not instances of multiple content questions, but are examples of single questions with the additional generic interrogative WH reinforcing the question being asked. The generic and specific interrogative can occur either in this order, or in the opposite order, as the following examples demonstrate:

(7-60a)   WHY UGANDA PROBLEM **WH**

(7-60b)   **WH** UGANDA PROBLEM WHY

      'Why is there a problem in Uganda?' /'What is Uganda's problem?'

7.6.4 Question words and question particles: Q-PARTICLE and ASK-QUESTION

A question particle is a form which indicates that a sentence is a question (Zeshan 2005b:564; Van Herreweghe & Vermeerbergen 2006:236). Such forms are not compulsory in signed questions (ibid.). Sign language question particles are discussed in Tang (2006:209) as having the following characteristics:

First, they fall within the same prosodic unit as the actual question and are not preceded by an intonational break. Second, where the Q-particles originate from some other signs, the original meanings may not be retained. Third, Q-particles are pragmatically marked; and finally, they can be clause final, clause initial, or they may occur in both positions.

This is not the case in all sign languages, however, and Savolainen (2006:288) found that the question particle occurring in FinSL is 'obligatorily clause-final'. Most known sign languages do not use question particles; they feature an interrogative or polar facial expression at the end of the question or throughout to indicate the question. Zeshan (2006:25) informs us that:

A world map charting the occurrence of question particles in sign languages shows that East Asia sign languages are particularly rich in question particles and stand out from the rest of the world in this respect.

However, UgSL appears to use a question particle, glossed here as Q-PARTICLE (see Figure 7.17 below, left side), which looks phonologically rather like the ASL particle Q-M (Fischer 2006:168) and complies with Tang's characteristics of Q-particles mentioned above.

Interestingly, examples from the corpus show that the question particle Q-PARTICLE may bear a striking similarity to the WH constructions described in Section 7.5.3.2 above. Signers may just as well produce examples (7-61a) and (7-61b):

(7-61a)   WHY UGANDA PROBLEM **Q-PARTICLE**
(7-61b)   **Q-PARTICLE** UGANDA PROBLEM WHY
            'What is Uganda's problem?' / 'Why is there a problem in Uganda?'

There seems to be little or no functional difference between these sets of utterances, so it may be possible to re-analyse the list of functions of WH given in Section 7.2.1, and add that WH may function as a clause-initial or clause-final question particle. The difference between WH and Q-PARTICLE then lies in the range of functions each of them fulfils, with WH having a much wider range of

functions. Secondly, the difference lies in the grammaticalisation paths that have led WH and Q-PARTICLE to be used as question particles. While WH has evolved from a communicative gesture, Q-PARTICLE has evolved from a directional verb. The form of Q-PARTICLE noted is also identical or very similar to that of the UgSL verb ASK-QUESTION 'ask'. It is likely that Q-PARTICLE is historically derived from ASK-QUESTION, which seems to be less frequent in the data than the other UgSL sign for 'ask', glossed in this thesis as ASK (see Figure 7.17, right side).

Below, example sentences from the data illustrate the difference between Q-PARTICLE and ASK-QUESTION.

Figure 7.17: The sign Q-PARTICLE and the sign ASK

(UgSLD picture sign: 882, Wallin et al. 2006)

All of the sentences below include the same form, but in three of the sentences (7-62, 7-64, and 7-65) this is glossed as Q-PARTICLE, while in (7-63) and (7-66) it is glossed as ASK-QUESTION. The context of each sentence determines which gloss is appropriate.

     _____br

(7-62) (PRO$_2$) **Q-PARTICLE+PRO$_2$** FEEL **Q-PARTICLE+PRO$_2$**

     'How do you feel?'   (Ug_mulesa_makumai.eaf00:01:33-5)

(7-63) PRO$_1$ WANT HEARING $_1$**ASK-QUESTION$_3$**

     'I want to ask the hearing person.'   (Uga_KCa.eaf00:12:16-8)

     _____br

(7-64) CERTIFICATE SPECIAL SALARY LITTLE WH **Q-PARTICLE**

     'Why is it that you've got a certificate now, but your salary is still low?'

     _____br

(7-65) **PRO$_3$+Q-PARTICLE** NAME+WHAT

     'What is his name?'   (Uga_KCb.eaf00:03:24-7)

(7-66) PRO$_3$ HEARING WANT $_1$**ASK-QUESTION$_3$**

'The hearing person wants to ask me.'

It is possible to compare example (7-62) above with the following construction (7-67) that employs the WH interrogative. The two signs (Q-PARTICLE and WH) appear interchangeable, as is the case in Japanese Sign Language (Morgan 2006:98) and FinSL (Savolainen 2006:288-9). In UgSL, it is difficult to distinguish whether or not WH is functioning as a question particle, as it typically appears as an independent interrogative sign.

      _____br

        _<how>

(7-67) PRO$_2$ FEEL **WH**

    'How do you feel?'

The above examples illustrate some important differences between Q-PARTICLE and ASK-QUESTION, which show that while clearly Q-PARTICLE has grammaticalised from the full verb form, the particle has a different grammatical status. First of all, ASK-QUESTION is a multidirectional verb (cf. Section 4.5.2 in the grammatical survey), as shown in examples (7-63) and (7-66), but the particle is uninflective and cannot change its form. Secondly, Q-PARTICLE can occur in syntactic constructions that are unavailable to ASK-QUESTION. In particular, we can observe doubling of Q-PARTICLE as in example (7-62). Doubling is not possible with ASK-QUESTION, as this is not a construction that generally occurs with main verbs in UgSL. For instance, the alternative sign ASK does not occur with doubling either. Occurrence of ASK-QUESTION both at the beginning and at the end of (7-63) would be strange or ungrammatical, but doubling of Q-PARTICLE in (7-62) is perfectly acceptable. Q-PARTICLE also occurs clause-initially on its own, as in example (7-65). As mentioned above, Q-PARTICLE has lost its literal meaning 'ask' and this desemanticisation is characteristic of the development from lexical to grammatical forms as predicted by grammaticalisation theory (e.g. Hopper & Traugott 1993; Heine & Kuteva 2002).

The development of a question particle from a verb of asking is not unique to UgSL. The same can be observed in other sign languages, such as in South Korean Sign Language (Zeshan 2005b), where the directional sign ASK

has similarly developed into a question particle. The differences between ASK-QUESTION as a lexical directional verb and Q-PARTICLE as a grammatical marker are summarised in Table 7.3.

	ASK-QUESTION	**Q-PARTICLE**
Meaning	Lexical 'ask'	Grammatical
Grammatical class	Directional verb	Particle
Inflection	Subject-object marking on the verb	Uninflective
Syntax: Doubling	No	Yes

Table 7.3: Differences between lexical directional verb and grammatical marker

7.7 Conclusions

In conclusion, UgSL is seen as containing a rich morphosyntactic system for articulating interrogative constructions, where the simultaneous production of manual and non-manual features combines with syntactic features to produce both generic and specific interrogatives. Analysis of the available UgSL corpora, along with additional recourse to the UgSL Dictionary and the researcher's native user intuitions, has identified one generic interrogative WH and specific interrogatives, including WH-IX-$_{TWIST}$ and WH-IX-$_{SUPINE}$ which have complex meanings not easily translatable into English. We have also seen that UgSL makes use of the non-interrogative sign NUMBER when articulating quantity questions. Distinct use of non-manuals has been observed in content questions, for example with respect to entity interrogatives, where WHAT and WHO differ in that WHAT contains raised eye brows, while they are furrowed with squinted eyes in WHO.

Analysis has shown varying levels of flexibility in the positioning of the predicate and arguments in relation to interrogative clauses. Overall, however, the corpus data show that the majority of UgSL interrogative signs are produced in clause-final position, tending to occur after a verbal predicate. Apart from WH, WHAT, WHY and WHO appear with most frequency in the data corpus.

An interesting WH-suffix interrogative has been found in UgSL. This contains a 'palm-up' suffix that has interrogative meaning, e.g. TIME+WH-SUFFIX= 'when?' Intriguingly, a suffix with exactly the same form also attaches to other signs and contains negative meaning, such as KNOW^NEG = 'don't know' (see the chapter on negation about this negative suffix). There is an interesting parallelism between the multifunctional nature of the PALM-UP sign (discussed in Section 7.2.1.2), which has both interrogative and negative functions, and its use as a suffix that generates both interrogative and negative forms. Thus one of the areas that would warrant further research into WH-structures in UgSL is the use of WH-signs in utterances that are not intended as information-seeking questions, but fulfil other functions.

In addition to the WH-SUFFIX, another instance of grammaticalisation has been discussed in this chapter, namely historical derivation of the Q-PARTICLE from the directional verb ASK-QUESTION. The historical development of sequential morphology in distinct grammatical domains such as interrogatives and negatives is certainly a fruitful area for further research as well.

8 NEGATION

8.1 Introduction and definitions

In spoken languages, negatives belong to various word classes, for example pronouns, adverbs, verbs and particles. Negatives in sign languages can also belong to different sign classes, e.g. in the form of particles, modals, or within verb morphology. As in many other sign languages, non-manual features play an important role in negation in UgSL.

This chapter defines several linguistic terms relevant to negation in both spoken and sign languages, and introduces the aspects of negation that relate to this thesis. Negation as a grammatical feature has to be distinguished from so-called 'semantic negatives', which relate to items that are psychologically negative by virtue of their meaning without involving a grammatically negative construction. This distinction is addressed in Section 8.2 on grammatical and semantic negativity which also includes binary opposition pairs (Section 8.2.2).

Negation itself can be characterised as a universal feature of natural human languages, whether signed or spoken (Horn 2001; Zeshan 2004, 2006; Sandler & Lillo-Martin 2006). Negation can be indicated through various grammatical means such as affixation, derivation, or independent negative forms. In sign languages, there is a considerable array of negative devices to choose from when expressing negation, and this is the case in UgSL too, as detailed in this chapter.

Within negation, it is useful to make a distinction between basic clause negation and other negatives. In basic clause negation, the polarity of the clause is simply reversed from positive to negative, and there are no other semantic changes to the clause, as the negator does not contribute any more specific shade of meaning. Basic clause negation is included in the discussion in Section 8.3, which discusses the most frequently occurring clause negators in UgSL (PA, NONE and BADO).

UgSL has a particularly rich array of negative modals, which are discussed in Section 8.4. Some negative modals appear to have quite similar meanings (e.g. IMPOSSIBLE, MEET^NEG, and CANNOT indicating inability;

and OKUGAANA and TEWAALI indicating deontic modality), yet these signs differ from each other in subtle and interesting ways.

Both the clause negators discussed in Section 8.3 and the modals discussed in Section 8.4 have a range of subtly different functions and meanings. In order to differentiate between these, the corpus-based methodology used in this thesis has been particularly helpful, as it provides evidence of these signs used in specific contexts in naturally occurring conversations. Thus grammatical and contextual differences are revealed when looking at a range of example utterances in their communication context from the corpus. Some of these utterances are then supplemented with examples from introspection in order to present near-minimal pairs of utterances that clarify the subtle distinctions in usage and meaning between different negators in UgSL.

Negators in UgSL also include two negators borrowed from ASL, NO and NOT (Section 8.5). Section 8.6 introduces negative idioms in UgSL, which have meanings wholly different from those of their component parts. Such structures were relatively rare in the data and in the literature, although idioms in general are quite common in UgSL.

UgSL, like other sign languages, thus has a variety of manual negation signs, which contribute a range of specific negative meanings to the clause. As this chapter illustrates, it seems that in UgSL, most manual negation forms appear clause-finally. In addition, UgSL negation signs are accompanied by non-manual components in different ways, as non-manuals may be obligatory or optional and may vary in form depending on the negative sign being used. Non-manual negation is discussed in Section 8.7, which also attempts to situate UgSL with respect to the 'non-manual dominant' and 'manual dominant' distinction for negation. However, these findings should be viewed with caution because the full analyses have not yet been carried out.

Section 8.8 investigates morphological processes in UgSL negation, as UgSL has some instances of bound negative morphemes (cf. Zeshan 2004 on 'irregular negatives'). The discussion in this section makes reference to the theory of grammaticalisation (e.g. Shaffer 2002; Wilcox et al. 2011; Pfau & Steinbach 2011; Janzen 2012), which accounts for the emergence of bound

morphemes such as clitics and affixes in grammatical constructions. Finally, a conclusion is presented in Section 8.9.

8.2 Grammatical and semantic negativity

According to Zeshan (2004: 5), forms can be categorised as grammatically negative or psychologically negative (also known as semantically negative). Grammatically negative refers to an item's grammatical category (e.g. English *nobody* is a pronoun, and *never* is an adverb). 'Semantically negative' refers to an item's semantic field, such as 'doubt' or 'refusal' (ibid: 6). Grammatical negativity usually affects the entire clause, while semantic negativity is usually associated with a single lexical sign. Semantically negative signs are mostly adjectival in UgSL; examples are SAD and DISAPPOINTED. Importantly, these signs must always be performed with the appropriate negative non-manual features (e.g. lowered eyebrows and/or a frown).

8.2.1 Semantic negatives

Semantic negatives are lexical forms with a negative meaning (ibid). An example of a semantic negative in UgSL is the sign MISTAKE. When articulating this form, the signer appears as if they are tracing the letter X, either on their own chest or in the space in front of them. Figure 8.1 shows the citation form from the UgSL Dictionary, where the sign is performed in the space in front of the signer; this version is glossed here as $MISTAKE_2$.

Figure 8.1: The sign $MISTAKE_2$ and the sign $MISTAKE_1$

(UgSLD picture sign: 880, Wallin et al. 2006)

However, the sign can also be made on the signer's body, indicating first person reference (glossed as $MISTAKE_1$; see Figure 8.1, right side), as in this example:

(8-1)   MONEY WALLET STEAL $MISTAKE_1$

'It was my fault my wallet was stolen.'

265

Usually, semantically negative words cannot take negative affixation (Horn 2001:155). Similarly, UgSL does not seem to allow for morphological negation to co-occur with semantically negative adjectives. However, in sign languages, including UgSL, manual negative signs can readily incorporate further negative components, especially non-manual features, and in fact this is often obligatory, as shown in some of the examples below. Thus semantically negative signs may be more marked than positive ones, because the citation form of the positive sign does not need to include distinct non-manual features, whereas the negative sign must include a negative facial expression.

For example, the signs meaning 'happy' and 'generous' can be performed with a neutral face, but those for 'sad' and 'greedy' are ungrammatical if articulated in this way. Figure 8.2 and 8.3 show the signs HAPPY (with neutral facial expression) and SAD (with positive facial expression).

Figure 8.2: The sign HAPPY

Figure 8.3: The sign SAD

The UgSL sign for 'generous' (GIVE-$_{DISTR}$) may appear with no non-manual features. However, this sign is more commonly accompanied by the mouth gesture <owa>, which signifies positive/helpful giving, as in the example

266

sentences below. (The <owa> mouth gesture is exclusively associated with the sign GIVE.)

            _____**<owa>+++**

(8-2a) PRO$_3$ MONEY **CASH-GIVE-**$_{DISTR}$

     'She is generous with money.'

            __**<owa>+++**

(8-2b) PRO$_3$ CLOTH **GIVE-**$_{DISTR}$

     'She is generous with clothing.'

In contrast, the sign GREEDY is ungrammatical if performed with no non-manual features. To articulate GREEDY in UgSL, the signer must lower their eyebrows and grit and bare their teeth (gritted/bared teeth is indicated by <i> in the gloss). Figure 8.4 shows the grammatical and ungrammatical articulations of GREEDY.

Figure 8.4: The sign GREEDY and the sign *GREEDY

(UgSLD picture sign: 2117, Wallin et al. 2006)

Another way in which semantic negatives are more restricted than their positive counterparts in UgSL can be seen in the way they are negated. Returning to the pair HAPPY/SAD, the sign HAPPY may be negated with a headshake, usually occurring with a frown (see example sentence 8-3 below), or with both NOT[38] and a headshake (see 8-5 below), though this is a less common form of negation than the headshake alone. (The sign NOT is shown in Figure 8.21

---

[38] For details about the manual negator NOT, see Section 8.5.2

below; this sign must always be performed with the headshake.) Conversely, SAD can be negated with the headshake (see 8-4 below) but is ungrammatical when used with NOT (see 8-6 below).

        _____**hs**
(8-3)   HAPPY

       'not happy'

       ____**hs**
(8-4)   SAD

       'not sad'

       _____**hs**
(8-5)   HAPPY **NOT**

       'not happy'

       _____hs
(8-6)   *SAD NOT

       'not sad'

This kind of restriction of negative-marked terms is seen cross-linguistically, e.g. English has *happy→unhappy* but *sad→*unsad* (Horn 2001:155-6).

8.2.2 Binary opposition pairs

Further differences in the morphosyntactic behaviour of semantic positives and negatives can be illustrated by examining binary opposition pairs in UgSL. It is worth noting that here and in some other sections, the author has relied mostly on literature about spoken languages, as these are new areas for sign language researchers.

In the data, the binary opposition pair UP meaning 'high level' and WAT meaning 'low level' (see Figure 8.5) appears in relation to education and employment. WAT is a semantically negative sign in UgSL which is accompanied by squinted eyes and rounded lips (indicated by <o> in the gloss (8-8) below), while UP is positive and features the mouth gesture <am>, with raised eyebrows and widened eyes. Therefore, both have the same amount of marking in terms of non-manual features; however, the negative item in this pair is uttered with reduplicate, whereas the positive one is not. This extra movement in the sign WAT seems consistent with the notion that positive terms

in asymmetric pairs are usually less marked, and the negative ones more marked (Horn 2001:155).

                                __<am>

(8-7) HEARING LEARN **UP**

      'Most hearing people are well-educated.'   (Uga_int-max.eaf.00:03:55-6)

               _____sq_____<o>

(8-8) DEAF LEARN **WAT-$_{REDUP}$**

      'Most Deaf people have a low level of education.' (Uga_int-max.eaf.00:03:57-8)

(Sentence (8-8) was taken directly from the data, while sentence (8-7) was constructed in order to provide a matching counterpart to (8-8). However, many sentences appeared in the data which were very similar to (8-8) in structure and content.)

The sign pair UP ('formal', 'important', 'posh', 'expensive') and WAT ('informal', 'unimportant', 'poor quality', 'cheap') can be used in general contexts or more specifically with respect to people's status, education and work (cf. the translations of the signs in the dictionary entries below). UP and WAT have been glossed as such due to their distinctive mouth patterns <am> (from mouthing the English word 'up') and <wat> (abbreviated to <o> if repeated as in the above example). The mouth gesture <wat> is not related to any spoken word.
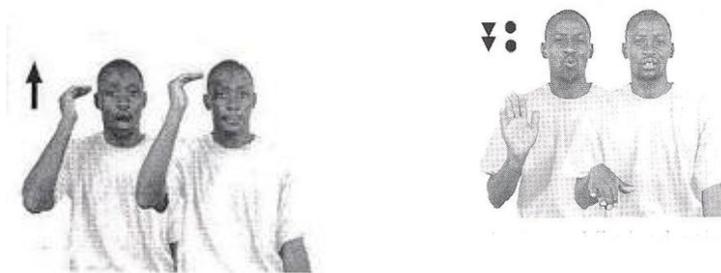
Figure 8.5: The sign UP and The sign WAT

(UgSLD picture sign: 96 and 635, Wallin et al. 2006)

Example sentences are as follows:

(8-9a) DEM$_{-IX}$ HOUSE **UP**

      'That house is posh.'

(8-9b) DEM-_{IX} HOUSE **WAT**

     'That house is cheap (poor quality).'

In the pair UP/WAT, the positive form is less marked and more semantically neutral (cf. Horn 2001:155). Therefore, the following utterance is unmarked:

     _____br
(8-10) MEETING **UP**

     'Is the meeting formal?'

However, MEETING WAT ('Is the meeting informal?') is marked, and implies that the signer already assumed the meeting was informal; this may prompt further questioning from his or her interlocutor(s) about why the signer expected the meeting to be informal.

     The use of the unmarked term from a binary opposition pair to form a neutral question, seen in (8-10) above, is not possible in all contexts. In many instances, this usage is ungrammatical, and a UgSL signer must employ 'which' constructions or measurement signs (e.g. to ask questions about height or size). In the 'which' constructions, often the more positive term goes first; for example in sentence (8-11a) below, FAT-BELLY ('fat') goes first as it is more desirable in Ugandan culture, whereas thinness is associated with illness and poverty. It is ungrammatical for THIN-BELLY ('thin') to precede FAT-BELLY in a 'which' construction, as in sentence (8-11b). Figure 8.6 shows how the signs FAT-BELLY and THIN-BELLY are performed.

                _____<i>__br__<sucked>__sq
(8-11a)   MAN ALL **FAT-BELLY THIN-BELLY**

         'Are the men all fat or thin?'

                _____<sucked>_____<i>
(8-11b)   *MAN ALL **THIN-BELLY FAT-BELLY**

         'Are the men all thin or fat?'

Figure 8.6: The sign FAT-BELLY and The sign THIN-BELLY

(UgSLD picture sign: 745, Wallin et al. 2006)

This kind of preference for the positive, unmarked word in a pair to go first in an alternate question construction has been observed in many other languages (e.g. English *big or small* but **small or big*).

DHAIFU (see Figure 8.7) is a semantic negative which implies 'not of good quality'. It does not have a morphologically related positive counterpart; its opposite might be GOOD 'good, delicious, enjoyable, appealing', QUALITY 'well-made, high quality', SMART 'well-presented', or another positive sign, depending on the context. It has been glossed using *dhaifu,* a Swahili word with a similar meaning, 'poor quality' (see example 8-12 in Section 4.2.3 of the grammatical preliminaries). DHAIFU is a two-handed sign with obligatory non-manual features: squinted eyes, puffed cheeks and a release of air from the mouth gesture <pu>. The sign NOT-BOTHERED uses a similar movement (see Section 8.7.2 below).

Figure 8.7: The sign DHAIFU

Example sentences using DHAIFU are as follows:

```
_____sq_____<pu>
```
(8-12) HOUSE **DHAIFU**

'This house is not of good quality.'

271

(8-13) (FAMILY) COMMUNICATION **DHAIFU**

'My family is not good at communicating (though signing).'

(Uga_ssebenkita_topher1.eaf00:06:14-5)

DHAIFU can also appear as a bound morpheme (see Section 8.9.2 for more information on the grammaticalisation of DHAIFU from lexical sign to grammatical particle to bound morpheme).

8.3   Clause negation

In terms of grammar, negation can be subdivided into clause negation and constituent negation, which are also referred to as wide and narrow scope negation (Haegeman 1995; Horn & Kato 2000:122). Clause negators can negate an entire sentence. *Not* is the basic clause negator in English and its equivalent can be found in the majority of languages.

There are three particles in UgSL (see Figures for PA, BADO and NONE below) that are frequently used both for clause/wide scope negation and as answers to questions involving existential/possessive signs such as POSS/POSS-$_{IX}$ and POSS-$_{PU}$ (see the chapter on possession). These uninflective particles are the clause negators with highest frequency in UgSL. The Section 9.2.3 on possession will provide further information about these negative forms, as they are also central to the expression of possession and existence in UgSL.

Table 8.1 shows the main functions of the four key negators in UgSL (three manual signs, PA, BADO, NONE1; and a non-manual expression, i.e. the headshake). Statistically, PA is used more often as a clause negator and as a marker of negative possession, existence and aspect; BADO is similar to PA in function. NONE1 has functions including existential, possessive, aspectual and quantifying. The headshake offers UgSL signers the option of a non-manual expression of basic clause negation, possession and existence. The following sub-sections account for these various functions of PA, NONE1 and BADO in detail, and headshake negation is discussed in detail in Section 8.8.

	headshake	PA	NONE1	BADO
basic clause negator	✓	✓	-	-
possessive/existential	✓	✓	✓	✓
quantifier	-	-	✓	-
aspectual	-	✓	✓	✓

Table 8.1: Possible functions of each main negator

The sub-functions listed in Table 8.1 are not distributed over the negators equally. While there is an overlap in several of the functions, each negator is more strongly associated with some negative functions than with others. In the corpus data, a statistical analysis has been carried out in order to identify how much each negative function is represented by each of the negators. The result of this analysis is shown in Figure 8.8.
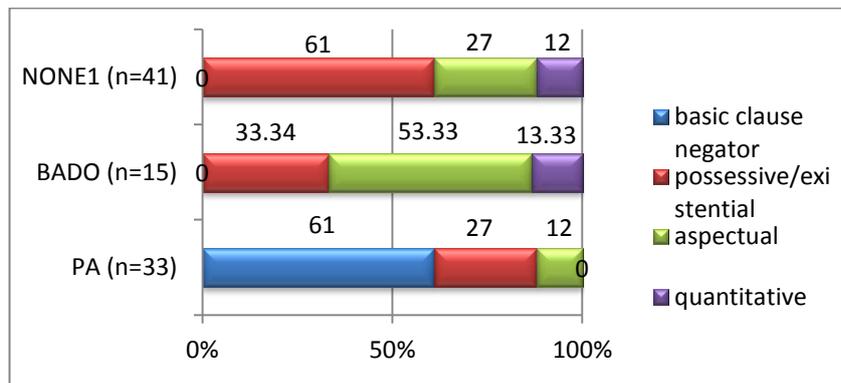
Figure 8.8: Quantitative data on the use of negators in different functions in UgSL

In the following sub-sections, the functions of PA, BADO and NONE are further discussed and illustrated with examples. With respect to the functions of negative possession and existence, similar quantitative data have also been used in Chapter 9, but with a different focus (see Section 9.4 in the chapter on possession and existence).

8.3.1 PA

The negative particle PA is one of the UgSL forms that can convey basic clause negation. However, basic clause negation is merely a sub-function of PA because PA also has other meanings. The sign is glossed here as PA because its accompanying mouth gesture makes it appear as if the signer is saying 'pa'. The mouth gesture is an obligatory part of the sign's phonology and cannot be left out. The word *pa* is not known to have a negating function in the spoken

languages of Uganda, but it is possible that the Luganda word *ppa* 'lies, falsehood, nonsense' may have some historical connection with this sign and its mouth gesture (Kiingi 2007). The sign is performed with both hands, with the fingers splaying outwards in front of the signer. PA always has the same location and hand orientation, regardless of the subject being referred to (see Figure 8.9 below).

Figure 8.9: The sign PA

(UgSLD picture sign: 1516, Wallin et al. 2006)

PA is more commonly used than BADO and NONE1, and seems to be unique cross-linguistically. Zeshan's (2006) book on negatives and interrogatives from around the world includes no signs approximating PA. This is because PA has such a wide range of meanings (and thus no simple spoken language equivalent); PA is used for negation, negative existence and negative possession. English translation equivalents may include 'not have', 'not there', 'nothing', 'gone', 'empty', 'won't', and 'not', and PA can also have an aspectual connotation. This may be why it occurs so frequently in the data. The collocation UNDERSTAND PA ('I don't understand') in particular appears many times; the predicate UNDERSTAND does not collocate with other negative existentials.

In the following sentence, PA can be translated as a negative possessive, negative existential, or basic clause negator. (It should be noted though that this also depends on the function of LEARN, on which a full sign class analysis has not been done yet.) Translation equivalents illustrating each negation sub-function are given below:

(8-14) BUT PRO$_1$ LEARN **PA**   (Uga_anne.eaf.00:06:14-16)

(a)   'But I do not have any learning.' = **negative possessive**

(b)   'But I do not learn.' = **basic clause negator**

274

(c)   'But I learn nothing.' = **negative quantifier**

(d)   'But there is no learning.' = **negative existential**

As the next three example sentences show, PA normally is placed at the end of the clause.

(8-15) MARRY **PA**

      'I am single; I have not (yet) married.'

(8-16) CHARCOAL ENOUGH **PA**

      'There is not enough charcoal.'

(8-17) UGANDA EXIST-$_{IX+u}$ DEAF STUDIES BA POSS-EXIST$_{+u}$ **PA**

      'In Uganda there is no Bachelor of Deaf Studies course.'

Pragmatically, some utterances containing PA can be impolite, e.g. TIME PA 'I haven't any time'. It would be more polite to use TIME BADO 'I don't yet have any time'. More importantly, the situations described by PA are normally temporary, e.g. COFFEE PA 'There is no coffee (but there will be when we make some more)'.[39] Further examples from the data are as follows, and in each case, the implication is that the negative situation may change in the future:

(8-18) MONEY **PA**

      'I don't have any money.'   (Uga_Sunday_jolly.eaf00:00:31)

(8-19) UgSL TRAINING EXIST-$_{IX+u}$ VILLAGE PARENTS AWARENESS **PA**

      'The parents at the UgSL training in the village had no (Deaf) awareness.'

(8-20) FRIEND POSS$_{1-IX}$ $_1$PAY$_2$ TRANSPORT **PA**

      'My friend has not paid me for the transport.'

---

[39] This adds an aspectual connotation, which is why "aspectual" is one of the options selected for PA in Table 8.1, although the specific meaning of this aspectual connotation is different from that associated with the sign BADO.

Because PA is used mainly to refer to temporary conditions, its collocation with items of inalienable possession is sometimes ungrammatical, for example, *HANDS PA ('have no hands') and *SISTER PA ('not have a sister'). In the latter case, the form POSS-$_{PU}$ must be added to make the sentence grammatical, i.e. SISTER POSS$_{3\text{-}PU}$ PA 'I don't (yet) have a sister (but may have one in the future).' By contrast, *HANDS PA will always be infelicitous as nobody can be expected to grow additional hands in future. Instead, HANDS NONE1 would have to be used to express that someone does not have hands permanently (see sub-Section 8.3.3 for details on NONE1). The distinction between temporary and permanent possession is investigated in more detail in the chapter on possession and existence (Chapter 9).

8.3.2 BADO

The adverbial particle BADO 'not yet' is a negator which communicates something that has not yet taken place. Like PA, BADO is so-named because it is often accompanied by mouthing, which makes it appear as if the signer is saying 'bado' (the word *bado* means 'not yet' in Swahili). This is a regional sign that is also used in Tanzanian Sign Language (LAT) and Kenyan Sign Language (KSL),[40] and the <bado> mouthing is the same in each region (Swahili is spoken in all of these countries). The sign is performed with wrist rotation of one hand, with fingers in a fist and the thumb extended upwards.
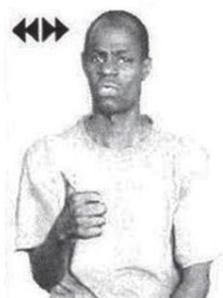
Figure 8.10: The sign BADO

(UgSLD picture sign: 833, Wallin et al. 2006)

---

[40] BADO as used in LAT and KSL is depicted in Muzale (2004) and Akach (1991) respectively.

BADO is a suppletive negative form whose positive counterpart is either the sign BEEN-IX or the sign FINISH, as UgSL has two positive completives. Both of these signs signify completive aspect (see Part II for general comments on aspect in UgSL). BADO acts as a clause negator, as in the following examples.

(8-21) FOOD DEM-$_{IX+y}$ **BADO**

      'There is no food yet.'

(8-22) PRO$_2$ SN:MULESA $_2$COME$_1$ **BADO**

      'Mulesa has not come yet.'

Examples from the UgSL corpus data show the various contexts of occurrence of BADO as a clause negator. In all instances, BADO has an aspectual meaning equivalent to English 'not yet' as in examples (8-23-9) below:

(8-23) BUT CAN SOLVE-$_{REDUP}$/ BUT END **BADO**

      '(The man said that) they are continuing to solve the problems and can't stop because the problems have not yet ended.'

<div align="right">(Ug_int_max.eaf00:07:17-21)</div>

In the example sentence above, a signer is talking about how the problems of the world, and thus the need to work toward solutions, are never-ending, and that we have not yet solved all the problems because more are always appearing.

(8-24) RESEARCH-$_{REDUP}$ STOP **BADO**

      'The (UgSL) research has not yet stopped.' (Ug_lauch1_debbie.eaf00:03:45-7)

As for the context of the above example, which is from a narrative, a signer says that when her friend's dictionary was published, she asked him whether he would be finishing his lexicographical work. She says that he answered as above, i.e. that he would not be stopping the research yet.

(8-25) DEAF ADULT-$_{REDUP}$ UNDERSTAND/ CHILD UNDERSTAND **BADO**

      'The deaf adults understood but (we) children had not learned yet.'

<div align="right">(Uga_lule_akomele1.eaf09:56-10:00)</div>

In the above utterance, two adults are talking about their educational experiences and the fact that as children they did not yet understand the importance of sign language.

In some instances, BADO is also used with a possessive or existential meaning in addition to its aspectual meaning, as in this example:

(8-26) PRIMARY+ZERO:P0   2h:B-_{TL-NEU-CLASS-PERIOD+x-z}   PRIMARY+TWO:P2/
PRIMARY+THREE:P3 **BADO**

'They had primary school classes up to class 2, but they did not have a (primary) class 3 yet / there was no class 3 yet.'   (Ug_anne.eaf00:05:34-8)

The context of this example is that a signer is telling about when she was in school, and mentions that there were only two primary classes at that time, i.e. class three had not been established yet.

Interestingly, the positive and negative counterparts BADO and BEEN-IX can appear together in the same clause, as shown in example sentences (8-27-31) below. As shown in (8-29), BEEN-IX cannot be used with PA. The appropriate completive form that can co-occur with PA is FINISH, which can also occur with BADO, as indicated in (8-30) and (8-31). However, the combination FINISH BADO can be ambiguous, and a signer would be likely to ask for clarification if this phrase was used. As another example, WORK FINISH BADO could mean 'I haven't finished working yet' or 'I haven't been given my work yet' (whereas WORK BEEN-IX BADO unequivocally means 'I haven't finished working yet'). This may be due to a semantic difference between BEEN-IX and FINISH; the former denotes full completion, whereas the latter may denote full completion or simply a stage of completion. Therefore, in example sentence (8-31) the implication may be that the food has not been prepared, has not arrived, or has not been eaten.

(8-27) CONTINUE BUILD BUT **BEEN-IX** BADO

'The building is under construction but it's not been completed yet.'

(Uga_mulesa.eaf00:06:54-5)

(8-28) FOOD **BEEN-IX** BADO

'The food has not yet been eaten.'

(8-29) *FOOD **BEEN-IX** PA

(8-30) FOOD **FINISH** PA

'The food has not yet been eaten.'

(8-31) FOOD **FINISH** BADO

'The food has not yet been eaten.' / 'The food isn't here yet.'

Verbal predicates appearing with BADO and PA must be used with the appropriate non-manual aspectual markers, i.e. the mouth gestures <po> and <fi> respectively (see example sentences (8-32a) and (8-33) below). It is ungrammatical to use PA with the aspectual marker <po> (which denotes completive aspect), as shown in (8-34). It is unclear whether BADO can be used with the aspectual marker <fi> (which has a lesser sense of completion compared to <po>, and can be repeated whilst <po> cannot); this combination would imply a question rather than a statement, as shown in (8-32b) below, where the English translation equivalent has an implied question. <po> cannot appear in questions, whilst 'fi' can.

                         ____**<po>**

(8-32a)   BUS ARRIVE BADO

             'The bus has not arrived yet.'

                         _____**<fi>**

(8-32b)   ?BUS ARRIVE BADO

             'The bus should have come; why hasn't it arrived yet?'

                         _____**<fi>**

(8-33)   BUS ARRIVE PA

             'The bus doesn't seem to have arrived (but may arrive soon, or we may have missed it).'

                         ____**<po>**

(8-34)   *BUS ARRIVE PA

             'The bus has arrived but it has not arrived.'

The ungrammatical combination of PA and <po> would imply, paradoxically, that something has happened which the signer is determined will not happen. More information about these non-manual markers is provided in the grammatical preliminaries in Part II in the section on non-manuals.

8.3.3 NONE

The particle NONE acts as a negative quantifier and is also used to negate the existence or possession of objects and people. It can also have an aspectual connotation (e.g. to mean 'I never will' or 'up to now, I never have'), as exemplified in some of the examples in this section. NONE can be spatially modified (e.g. to mean 'nothing there, there or there'). This sign is also the usual

way to render translation equivalents of negative adverbial and pronominal expressions including 'never', 'nothing' and 'nobody' in UgSL.

Phonologically, this sign may be linked to the general concept of a round-shaped 'zero' (Zeshan 2004:37), as it is performed with both hands in a round 'O' handshape.[41] The hands are parallel and very close to each other (but not touching), and then they are pulled apart. The mouth usually gestures an <o> (/u/) expression as if the signer is blowing out a candle (see Figure 8.11 below). There is a similar but rarer sign, glossed here as NONE2 ('empty' or 'bankrupt'), which will not be considered at length in this chapter as it is not used strictly for negation, though it is semantically negative. This form has a similar handshape to NONE1 but is located at the eye.

Figure 8.11: The sign NONE1 and the sign NONE2

(UgSLD picture sign: 267, Wallin et al. 2006)

In the data, occasionally signers use other versions of NONE1 in which the hands have a slightly different movement pattern or handshape (repeated side-to-side movement with a O-handshape or F-handshape, or repeated circular movement). However, these forms occur only rarely in the data and thus there are insufficient data on this variation to justify any further claims on their function. This section concentrates on the form of NONE1 shown above, as this is the form occurring with highest frequency in the data.

---

[41] The similar handshapes used in the signs ZERO and NONE1 suggest that the sign ZERO may have grammaticalised to become NONE1. This may be an interesting topic for future research. In ISL and ASL, there are negators similar in form to the sign ZERO.

NONE1 is used to express negative possession and/or existence, as described in detail in Chapter 9 on possession.[42] NONE1 is also used as a negative quantifier. However, within the domain of possession and existence, it has been difficult to distinguish between a negative possessive/existential function of NONE1 ('not have'/'not there') and a negative quantification function of NONE1 'have none'/'none there'), as many utterances equally allow for both interpretations. Examples (8-35-6) demonstrate the use of NONE1 for negative possession/existence:

(8-35) SOME PEOPLE PRO$_{3\text{-COLL}}$ BORN DEAF **NONE1**

'There were no people who were born deaf among them.'

(Uga_int_max.eaf 00:08:15)

(8-36) AFRICA (UGANDA) DEM-$_{IX}$ DEVELOPMENT **NONE1**

'Africa does not have any development. / There is no development in

Africa.' (Uga_KCa.eaf 00:12:19-22)

When referring to the negative existence of entities, NONE1 is also used to signify 'nobody' (cf. Dryer 2005b:454 on spoken languages); in UgSL, there seems to be no genuine negative pronoun, and so a signer needs to use PERSON with the sign NONE1 in order to signify the equivalent of 'nobody' (example 8-37). The fact that these two signs do not always need to be adjacent, as in (8-38), is further evidence that this is a periphrastic construction rather than a negative pronoun.

(8-37) RENT HOUSE DEM-$_{IX}$ ENTER PERSON **NONE1**

'Nobody is renting that house.'

(8-38) STUDENT UNION SIT PERSON-$_{PL}$ EXIST$_{+z}$ **NONE1**

'There is nobody sitting in the Student Union.'

These sentences are from introspection, as the PERSON NONE1 structure was not found within the data.

---

[42] It is often difficult or impossible to distinguish between possession and existence in UgSL, as is discussed in Chapter 9.

In addition to referring to entities as shown in the above examples, NONE1 may also refer to the negative quantification of events or occurrences that are conceptually situated in space or time. In this case, NONE1 negates a verbal predicate rather than an entity or a possessum.

Consider the possible spatial and/or temporal meanings in examples (8-39a) and (8-39b), with WORK NONE1:

(8-39a)   WORK **NONE1**

'There is no job or work.'   (Uga_lule_akomele2.eaf00:11:46)

(8-39b)   WORK **NONE1-$_{DISTR}$**

'There are no jobs anywhere.'

The clause (8-39a) on its own could mean either that there is a variety of work tasks that should have been done, or that the person has not done any work over a period of time, while (8-39b) is specifically about the absence of work in different places.

Where the event is situated conceptually within time, NONE1 can take on an aspectual meaning equivalent to the adverbial 'never'. The following examples are from the data corpus and show contexts where NONE1 is used to mean 'never':

(8-40) MAKERERE (UNIVERSITY) ENTER AMAZE/ PRO$_3$ SIGN **NONE1**

'I had entered Makerere University; I was taken aback (to see) that he will never learn sign language.'   (Uga_KCb.eaf00:11:53-6)

UgSL also has separate lexical adverbial signs meaning 'never'. There are two phonologically and semantically similar forms in UgSL, which are glossed here as NEVER1 and NEVER2.

Figure 8.12: The sign NEVER1 and the sign NEVER2

However, these signs are rare in the data; the first appears only once, and the second only a few times. Their rarity may be due to UgSL already having two commonly-used signs with a similar meaning: both NONE and IMPOSSIBLE also signify 'never'. NEVER1 and NEVER2 can both be used in contexts of disagreement and denial, and usually carry a strong emphasis, as in example sentences (8-41) to (8-44):

<div style="text-align:right">_____hs</div>

(8-41) WOMAN+OLD: _{GRANDMOTHER} GOOD HEART CHILD-_{PL} OPPRESS

     _____hs

NEVER2

'That grandmother has a kind heart and would never oppress her grandchildren.' (Uga_amongi_akullo.eaf:00:03:48-53)

(8-42) 2h:B-_{TL-NEU+sb-frd} DEM-_{IX+d} **NEVER1**

'I never come here (this is my first time).' (Uga_Sunday_jolly.eaf00:10:32-4)

<div style="text-align:center">_____hs</div>

(8-43) DEM-_{IX+x} SHRINE PRO₁ ENTER AGAIN **NEVER1**

'I'll never go into that shrine again (because it's full of witchcraft).'

In each of these sentences, a signer could select NEVER1 or NEVER2; the meaning would remain the same. Moreover, NONE1 can be substituted for NEVER1 or NEVER2, as indicated in example (8-41).

(8-44) WOMAN+OLD: _{GRANDMOTHER} GOOD HEART CHILD-_{PL} OPPRESS

NONE1

'That grandmother has a kind heart and would never oppress her grandchildren.'

The difference between pairs of utterances such as (8-41) and (8-44) is one of emphasis; in contrast to NONE1, NEVER1 and NEVER2 are more emphatic. This is supported by the fact that NEVER1 and NEVER2 appear with multiple negative non-manual features including a frown and an obligatory side-to-side negative headshake shown gloss (hs). By contrast, while the manual sideways movement in NONE1 is the same as in NEVER2, NONE1 may or may not occur with negative headshake.

NONE1 sometimes occurs together with other signs that are spatially inflected, such as in this example:

(8-45) ASSOCIATION BRANCH POSS-EXIST-$_{DISTR}$/ **NONE1**

'The Deaf association does not have not any branches (in different places).'

In this case, the interpretation is that entities or events in question are absent from these multiple conceptual locations. In addition, NONE1 itself can be spatially inflected. As shown in (8-46) below, NONE1 can have a distributive inflection, where the hands move in the sign space in front of the signer's body, and the interpretation is equivalent to the above example (8-45).

(8-46) DEAF ASSOCIATION **NONE1-$_{DISTR}$**

'There are no branches of the Deaf association.'

By contrast, (8-47) shows NONE1 spatially inflected along the timeline (see Section 4.5.5 in Part II on timelines), which results in a different interpretation, namely that an event did not happen at any of the points on the timeline. As mentioned above, the interpretation can often be equivalent to the aspectual adverbial 'never'.

(8-47) DEAF ASSOCIATION YOUTH SUPPORT 2h:B-$_{TL\text{-}FROM\text{-}TO+sfrd}$ **NONE1**

'The Deaf Youth association has never been supported (with funds).'

These spatial inflections make explicit the different shades of meaning inherent in the negator NONE1, which in other examples are only recoverable from the context, or are not differentiated, so that the meaning is ambiguous or vague.

8.4 Negative modals

The notion of modality, as, for instance, reflected in the seminal work by Lyons (1981), is based on the speaker's or signer's attitudinal involvement with the content of the clause. In other words, a proposition is not only asserted, but the originator of the utterance also encodes his or her view of the proposition, which can be of various kinds. Unfortunately only negative modals are explored in this

thesis due to space limitations; positive modals in UgSL will have to be examined in future work.

The speaker/signer may express greater or lesser commitment to the truth of the utterance, for example whether what is being said in the proposition is considered to be true, likely, or possible (alethic or epistemic modality). Alternatively, notions of permission or obligation may be expressed about the utterance (deontic modality), as discussed, for instance, in Langacker (1991:271ff). Coates's (1995:59) definitions are as follows:

> Epistemic modality is concerned with the speaker's assumptions or assessment of possibilities, and in most cases it indicates the speaker's confidence or lack of confidence in the truth of the proposition expressed. Root modality encompasses meanings such as permission and obligation, and also possibility and necessity.
>
> (Coates 1995:59)

As exemplified in Ferreira Brito (1990) with examples from English, Brazilian Portuguese and Brazilian Sign Language (LSB), modality may be expressed lexically (e.g. using adverbs such as English *maybe*), or through verb morphology (e.g. subjunctive verb inflection in Portuguese). Sign languages mainly use lexical items to express modality, and the negative modals described in this section fall into this category.

In work on spoken languages, sometimes merely a binary distinction is used between alethic/epistemic and deontic modality, because the distinction between alethic and epistemic modality is often difficult to ascertain (cf. Sweetser 1982; Langacker 1991). Alternatively, a more recent categorisation differentiates between agent-oriented modality, epistemic modality and speaker-oriented modality, which are summarised in Shaffer (2002:35) as follows, referring to Bybee & Fleischman (1995):

> *Agent-oriented modalities*, in this view, include ''all modal meanings that predicate conditions on an agent, with regard to the completion of an action referred to by the main predicate, e.g. obligation, desire, ability, permission and root possibility'' (1995:6). *Epistemic modality* retains its traditional definition: ''[E]pistemics are clausal-scope indicators of a

speaker's commitment to the truth of a proposition'' (ibid.). Markers of directives, optatives, or permissives--speech acts through which a speaker attempts to move an addressee to action-- are called *speaker-oriented* (ibid.).

(Bybee & Fleischman 1995 in Shaffer 2002:35)

Negative modals often have several nuances of meaning, which makes it challenging to analyse them accurately. The following examples from English (created by the researcher) illustrate the multiple meanings that characterise modals in general:

(8-48) *A triangle cannot be round*. (alethic modality)

(8-49) *He can't be at home*. (epistemic modality)

(8-50) *You can't go to the party tonight; you are grounded*! (deontic modality)

(8-51) *I cannot fly like a bird*. (physical inability)

(8-52) *I can't come to meet you tomorrow because my children are ill*. (circumstantial inability)

(8-53) *I can't drive yet, but I am taking lessons*. (skill-related inability)

In some languages, like French and Italian, the addition of a negation marker onto a modal does not actually negate the modal itself; it negates the main verb. Also, sometimes suppletive forms are used to negate a particular modal notion; for example in English the negation of 'must' in *you must go* has to be performed by a different modal, i.e. *needn't*, rather than by *mustn't* (Palmer 1995:453-5).

Detailed work on negative modals is scarce in sign language research. The typological work by Zeshan (2006) merely mentions negative modals as a category but does not go into details of analysing individual negative modal signs in various sign languages. Early work by Fereira Brito (1990) on modality in Brazilian Sign Language mainly covers positive modals and has little information on negative modals.

More recently, important work has been done on modals in relation to grammaticalisation by Shaffer (2002) and by Wilcox, Rossini & Pizzuto (2010).

Shaffer (2002:39) postulates a historical development of the modal CAN in ASL, linking the various semantic sub-categories of modality as below:
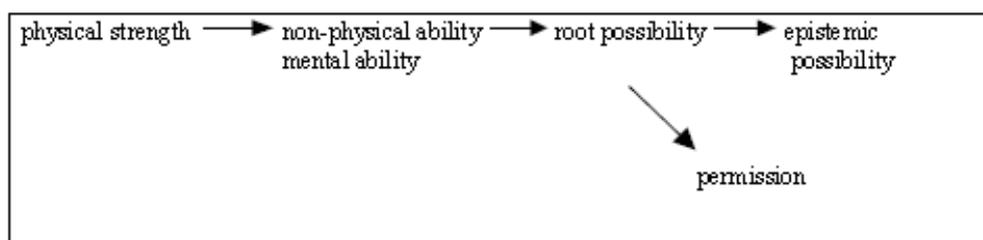
FIGURE 3. The grammaticization of CAN (Shaffer 2000)

Figure 8.13: Development of the sign CAN for ASL

Wilcox, Rossini & Pizzuto (2010) discuss positive and negative modals for expressing possibility in the context of grammaticalisation from gesture via lexical signs to grammatical markers. Their discussion of various uses of signs meaning 'impossible' (ibid.: 338-349) is relevant here, and some of the same distinctions of 'ability' discussed in their work are similar to the arguments presented below for UgSL.

Many negative modals in UgSL have several, usually inter-related, meanings. Therefore, the way in which the signs have been grouped below is not the only possibility, and it would have been possible to group signs together differently. However, the groups of modals in the sections below do have significant factors in common, so that there is explanatory value in having organised the material in this way. Negative modals that primarily express agent-oriented modalities with respect to inability (CANNOT, IMPOSSIBLE, MEET^NEG) are discussed in Section 8.4.1, agent-oriented modality with respect to desire (WON'T) in Section 8.4.3, and negative modals expressing primarily speaker-oriented or deontic modalities (OKUGAANA and TEWAALI) in Section 8.4.2 as well as (NO) in Section 8.5.1 below.

8.4.1 Negative modals expressing inability

The expression of inability is part of the agent-oriented modalities. However, in order to be useful for the description of UgSL signs in this section, inability needs to be subcategorised further into physical, circumstantial, and skill-related inability, similar to the signs expressing inability in Italian Sign Language as discussed in Wilcox, Rossini & Pizzuto (2010).

8.4.1.1 IMPOSSIBLE

The sign IMPOSSIBLE (see Figure 8.14) denotes 'physically impossible' or 'absolutely impossible'. As the implication is of absolute impossibility that is obviously not going to change, this sign can also mean 'never', or can be similar in meaning to the ironic English phrase *yeah, right.* IMPOSSIBLE often refers to something so untrue or unlikely that it is almost humorous. It is performed with rounded lips (glossed <o>), as if blowing out a candle. Though the citation version of this sign is one-handed, there is also a two-handed variant which carries greater emphasis.
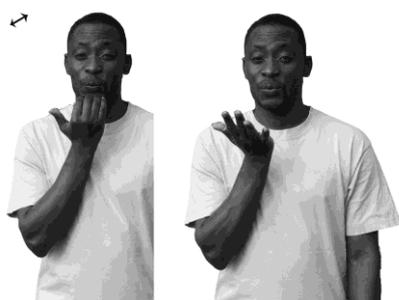
Figure 8.14: The sign IMPOSSIBLE

Both versions occur numerous times in the data, particularly as answers to questions and in discussions linked to communication habits and abilities (as in (8-57) below). Example sentences in (8-54) to (8-57) illustrate the use of IMPOSSIBLE (the first three from introspection and the fourth from the data).

Example sentences (8-54) to (8-56) express physical, circumstantial, and skill-related inability respectively, all of which can also be expressed by the sign CANNOT (see Section 8.4.1.3). However, compared to CANNOT, the sign IMPOSSIBLE is a more absolute expression of impossibility, implying that under no circumstances will the proposition be admissible or possible.

       _____t_____<o>

(8-54) FLY-WITH-WINGS **IMPOSSIBLE**

    'I cannot sprout wings and fly.'

       _____t_____<o>

(8-55) DATE PRO$_2$ MEET **IMPOSSIBLE**

    'I cannot date other people (because I'm married).'

<div align="right">_____t_____<o></div>

(8-56) COMPUTER PRO-DEM-$_{IX+z}$ FIX **IMPOSSIBLE**

      'You cannot fix that computer (because your IT skills are rubbish).'

The sentence in (8-55), if appearing in a context where the signer's marital status is being discussed, implies an absolute and permanent inability, whereas the same sentence with the negator CANNOT could refer to a temporary inability that may change any time. Similarly, in (8-57) the teacher's inability to communicate in sign language is seen as permanent and self-evident, akin to alethic modality. Therefore, adding a second clause as in (8-58) would not be felicitous, as the potential for future learning expressed in (8-57) conflicts with the absolute impossibility expressed by IMPOSSIBLE.

<div align="right">_____t_____<o></div>

(8-57) (TEACHER) COMMUNICATE SIGN LANGUAGE **IMPOSSIBLE**

      'The teacher cannot use sign language at all.'

<div align="right">(Uga_ssebenkita_topher1.eaf00:10:48-50)</div>

(8-58) *TEACHER COMMUNICATE SIGN LANGUAGE **IMPOSSIBLE** / BUT HOPE NEXT-YEAR LEARN FINISH

      'The teacher cannot use sign language at all, but I hope he will have learned it by next year.'

By contrast, substituting CANNOT in sentence (8-58) leads to a perfectly acceptable sentence as in (8-59). This is because CANNOT does not imply a permanent inability, so the notion that someone does not have a skill now, but will have that skill later on is compatible with the sign CANNOT.

(8-59) TEACHER COMMUNICATE SIGN LANGUAGE **CANNOT** / BUT HOPE NEXT-YEAR LEARN FINISH

      'The teacher cannot use sign language (for now), but I hope he will have learned it by next year.'

The use of CANNOT is described in more detail in Section 8.4.1.3.

8.4.1.2   **MEET^NEG**

The sign MEET^NEG (Figure 8.15 below) is made up of a free morpheme (MEET) and a bound morpheme ^NEG (see Section 8.9 on morphological aspects of negation).

<div align="center">289</div>

Figure 8.15: The sign MEET and The sign MEET^NEG[43]

(UgSLD picture sign: 1468 and 1469, Wallin et al. 2006)

However, its meaning is only metaphorically related to these component parts; MEET^NEG actually contains the notion of 'impossible' in combination with 'giving up' after trying. The sign's meaning implies that a more or less sustained effort had been made, but it proved impossible to 'meet the target' and therefore the person has given up hope of being able to achieve the intended goal. Because of the temporal connotation of having tried before until now, the sign is often equivalent to 'never' when translated into English. The specific connotations of MEET^NEG are evident in the following examples (these are from introspection, as MEET^NEG occurs very rarely in the data corpus).

Context: The signer explains that someone has asked a woman a thousand times to marry him but she has always refused, and now he has given up asking her.

(8-60) MARRY **MEET^NEG**

'He will never be able to marry her.'

Context: The signer has been trying to start his motorbike but without success and he is fed up with the situation.

(8-61) MOTORBIKE START-MOTORBIKE-KICK **MEET^NEG**

'I will never be able to start my motorbike.'

---

[43] This image shows the definition 'impossible' in the upper left corner, but the sign was not given a gloss in the UgSL Dictionary. The sign is glossed here for the first time as MEET^NEG.

It is notable that MEET^NEG serves to express the signer's current view that the goal will not be reached, but this assessment may be right or wrong, that is, the motorbike may eventually start, but the marriage may never take place. The important point is that the signer expressed the concept of 'tried but unable to get there'. The semantics of MEET^NEG are thus similar to those of IMPOSSIBLE, but the temporal and modal aspects of these two signs are different. MEET^NEG implies an evidence-based assertion of lack of ability or likelihood. Perhaps for this reason, MEET^NEG is also used more in action contexts compared to CANNOT and IMPOSSIBLE (see Figure 8.16 below). Altering example sentence (8-54) from the section above illustrates the temporal and modal distinctions between IMPOSSIBLE and MEET^NEG: this sentence is questionable if MEET^NEG is substituted for IMPOSSIBLE, because it is unlikely that someone would previously have tried flying with wings and failed.

(8-62) ?FLY-WITH-WINGS **MEET^NEG**

     'I can't sprout wings and fly.'

Moreover, the sign MEET^NEG cannot be used with continuative aspect. For example, the following sentence is ungrammatical:

(8-63) *DRIVE-$_{CONTI}$ **MEET^NEG**

     'I will never driving.'

The reason seems to be a semantic incompatibility between an action seen as continuing at a given moment, and a negator that implies a temporal connection with past actions of trying for an aim that was impossible to achieve.

8.4.1.3   CANNOT

The UgSL sign CANNOT is performed with two rotating fists (see Figure 8.16 below). Like some other negative signs, CANNOT requires the hands to be in a palm-up orientation at the end (similar to KNOW-NEG and DHAIFU; see Section 8.9.1 below).

Figure 8.16: The sign CANNOT

(UgSLD picture sign: 1547, Wallin et al. 2006)

Of the three signs with primarily agent-oriented meanings, CANNOT has the widest range of functions. Like the other two signs, CANNOT expresses inability due to physical reasons, circumstance, or skills, as in these examples:

(8-64) PRO$_1$ JOIN-GROUP WON'T / **CANNOT**

'I can't join the group.' (circumstantial inability)

<div align="right">(Ug_amuge_amongi.eaf00:02:48-52)</div>

(8-65) DEM-$_{IX+z}$ BARRIER++/ MEAN DEAF **CANNOT**

'There are many barriers, meaning that deaf people cannot (do it).'

(circumstantial inability)   (Ug_int_max.eaf00:06:34-6)

(8-66) FAMILY ONE **CANNOT**

'In a family you can't just have one (child).' (circumstantial inability, due to social norms)   (Ug_int_max.eaf00:07:58-9)

(8-67) PRO$_3$ LOOK$_{+x}$ DEAF **CANNOT**

'S/he saw that a deaf person can't do it.'   (skill-related inability)

<div align="right">(Uga_mulesa.eaf00:04:21-5)</div>

However, CANNOT also has deontic and epistemic modal meanings, as in the following examples:

Context: Two friends talk about a government officer who is very honest.

(8-68) PRO$_3$ TAKE-BRIBE **CANNOT**

'He can't take a bribe!'

This sentence does not mean that the officer in question is unable to take bribes by reason of circumstance or skill, but rather refers to the signer's belief about the officer, namely a belief that the person would not take bribes. CANNOT is used here in an epistemic function.

Context: The signer is not allowed to go to a party.
(8-69) MOTHER TELL / PRO$_1$ GO-OUT **CANNOT**

      'My mother said I can't go out.'

Here the signer has been forbidden from going out, and therefore CANNOT is used in a deontic function. In this context, OKUGAANA or TEWAALI could also have been used (see Section 8.4.2 below).

      Due to its wide range of functions, CANNOT as a negative modal includes the concepts of futurity, possibility, ability and/or obligation. UgSL signers also frequently use CAN OKUGANNA or CAN TEWAALI to mean 'cannot', 'will not', 'must not' and 'should not'. It is also possible to negate CAN with IMPOSSIBLE. However, other negators are ungrammatical or questionable when used with CAN, e.g. *CAN BADO, *CAN PA, *CAN NONE1 and ?CAN NOT. (The structure ?CAN NOT may be an influence from English.)

    CANNOT seems to have been borrowed from European SLs. CAN in ASL and UgSL is the same, but CANNOT is different, and other sign languages have borrowed this sign as well. Such ASL modality markers are mainly free grammatical morphemes (Wilcox and Wilcox 1995; Shaffer 2002:36-7). Modal auxiliaries in ASL include CAN (POSSIBLE), MUST (SHOULD) and FUTURE, and sometimes the negation of these. The ASL sign CAN may have grammaticalised from a lexical sign STRONG to a marker of physical/mental ability, root possibility, permission and epistemic possibility (Shaffer 2002).

8.4.2 Negative modals expressing deontic modality

The main two signs in UgSL that express deontic modality are OKUGAANA and TEWAALI, both of which are derived from communicative gestures used in the region. As is detailed in this section, the two signs express slightly different shades of meaning. In addition to these two signs, the ASL-derived loan NO also has a deontic function, but this sign is very rare in the data corpus.

8.4.2.1   OKUGAANA

The sign OKUGAANA ('shouldn't', 'mustn't', 'oughtn't', 'can't', 'didn't'; see Figure 8.17 below) is a clause negator similar in meaning to TEWAALI. The Luganda word *okugaana* has been selected as the gloss for this sign because it carries comparable meanings of denial, forbiddance and prohibition. OKUGAANA is composed of a wagging index finger, and like TEWAALI, it occurs many times in the data,[44] in including in the extracts below.

Figure 8.17: The sign OKUGAANA

The following examples each express directives of one kind or another, so OKUGAANA is appropriate in these contexts, as one of its functions is as a negative imperative.

(8-70) DISABLED PRO$_3$ WALK-FLOOR **OKUGAANA** (PALM-UP-DOWN)

'Disabled people shouldn't (have to) walk on the ground (with their hands).'   (Uga_int_max.eaf00:06:47-8)

(8-71) (PARENTS) TIRED OPPRESS DISABLED **OKUGAANA**

'(Parents) shouldn't give up on their disabled (children), as that leads to oppression.'   (Uga_int_max.eaf00:06:48-50)

(8-72) DRIVE MUST SHOOT-SPEED 1-CL-SPEED-METER-INCREASE ONE-ZERO-ZERO B-CL-SPEED-METER-DECREASE-BACK ONE-ZERO-ZERO **OKUGAANA**

'(I told the driver) he must shoot off at 100 miles per hour, and he mustn't let the speedometer drop below that (i.e. get the pedal to the metal).'

---

[44] OKUGAANA is seen in a variety of pragmatic contexts, from polite to rude/upset/demanding. The politeness/impoliteness of this sign depends on the facial expression accompanying it.

Context: A discussion between two signers, about the time when one of them was accompanied to the deaf school by a white support person.

(8-73) MOTHER POSS$_{2\text{-}IX}$ ESCORT **OKUGAANA**

'Your mother didn't go with you (only the white person did).'

Interestingly, this sentence contains the only occurrence of OKUGAANA in the corpus that signifies denial (most others indicate prohibition/forbiddance); however, introspection suggests this sign is commonly used to deny culpability or responsibility.

Context: Two signers are discussing support for an electoral campaign, and one of them is not interested in supporting the campaign to get another person elected as mayor.

(8-74) SORRY SUPPORT **OKUGAANA**

'Sorry, I wouldn't support (the campaign).' (Uga_amuge_amongi.eaf00:03:18-20)

Here OKUGAANA is used to refute an expected invitation to join the campaign, and the signer wants to reject such as invitation even before it has been made. The utterance thus expresses an unwillingness to support the campaign, rather than an inability. In the latter case, CANNOT could have been used, for instance if the signer was unable to support the campaign because of lack of funds.

8.4.2.2 **TEWAALI**

TEWAALI ('don't', 'avoid', 'stop', 'untrue'; see Figure 8.18) is another deontic negative modal that occurs quite frequently in the data (64 times). The gloss TEWAALI is borrowed from the Luganda imperative *tewaali* 'do not do' (Kiingi 2007), as the function of TEWAALI closely matches a negative imperative. To articulate TEWAALI, the signer waves one or both hands, squints the eyes and may also shake the head, though the headshake is optional (Figure 8.18).

Figure 8.18: The sign TEWAALI

As the example sentences below demonstrate, TEWAALI usually appears sentence-finally when negating clauses:

(8-75) TEA POUR-SALT **TEWAALI**

'Don't put salt in the tea.'

(8-76) PRO₃ HEARING SPEAK-LIP-READ PRO₁ **TEWAALI**

'I told the hearing people not to speak (as I am Deaf and I sign).'

(Uga_KCa.eaf00:09:28-30)

In this sense, TEWAALI and OKUGAANA can only be used to negate verbs associated with animate agents (people or animals), because there must be an addressee for the prohibition to be addressed to. An example of an ungrammatical use is *RAIN TEWAALI 'Don't rain.'

UgSL also often uses TEWAALI to describe 'middle' concepts in the 'zone of indifference' (Horn 2001:271). This use of negation is occurs cross-linguistically because 'the zone of indifference must often be characterised negatively, as '*neither X nor Y*' (ibid.). The below examples of this phenomenon are from introspection, as these structures did not appear in the data:

        _____hs   _____hs_____hn

(8-77a)   WANT SKIRT LONG **TEWAALI** MINI **TEWAALI** KNEE-LENGTH

'I want neither a long skirt nor a miniskirt, but a knee-length one.'

        _____hs   _____hs

(8-77b)   SKIRT LONG DEM-$_{IX+x}$ **TEWAALI** MINI DEM-$_{IX+z}$ **TEWAALI**

        _____hn

KNEE-LENGTH DEM$_{+y}$

'I want neither a long skirt nor a miniskirt, but a knee-length one.'

Importantly, if localisation in signing space is used, as in (8-77b), these structures must utilise the correct placement and/or referencing in order to be grammatical. Commonly, the two negated topics (e.g. 'long skirt' and 'mini skirt') are referenced to the left and right of the signer, while the final topic is referenced in the neutral space in front of the signer (the final index pointing sign in example (8-77b).[45] Sometimes there is an alternative articulation, as in this example where the signer can simply move the hand down and up to indicate 'long' and 'short', as in example (8-77a).

8.4.3 Negative modal expressing lack of intention or desire

The clause negator WON'T (Figure 8.19) is commonly used to mean 'not interested (in something)', or 'won't participate', and has a distinctive non-manual feature, scrunched lips (indicated in the gloss below by <scrh>).

Figure 8.19: The sign WON'T

Although the sign is glossed WON'T here, the sign does not necessarily imply future tense and can be used just as easily with past reference. Like many other UgSL negators, WON'T is commonly used as an answer to a question. WON'T is always placed sentence-finally, as demonstrated by these examples from the data:

```
                                    _____<sh>
```
(8-78) (PRO$_1$) WORK (WITH) PRO$_3$ **WON'T-REDUP**

    'I won't work with her/him.'

```
                                    _____<sh>
```
(8-79) GROUP CONTINUE PRO$_1$ JOIN-GROUP **WON'T-REDUP**

---

[45] For more about referencing and placement, see Part II with respect to the signing space.

'The group can carry on; I won't be participating.'

<div align="right">(Uga_amuge_amongi.eaf.00:02:46-9)</div>

This sign is limited contextually in that it cannot be used with verbs that imply completion such as BUY; this is illustrated in the ungrammatical example sentence (8-80a). The sentence would need to be constructed without BUY, as shown in (8-80b).

_____<sh>

(8-80a)   *COMPUTER BUY **WON'T-REDUP**

'I bought and won't buy the computer.'

_____<sh>

(8-80b)   COMPUTER **WON'T-REDUP**

'I'm not interested in that computer.'

Sentence (8-80a) is ungrammatical because the meaning of WON'T implies that the signer is faced with a situation where a decision is being made whether or not to participate in an event that is about to happen.

As WON'T expresses desire and intention, it is part of the negative modals that are agent-oriented. Its function partly overlaps with LIKE-NEG (see Section 8.9.1.1).

8.4.4 Negation and modality

The theoretical terms that have been found most useful to describe the functions of negative modals in UgSL for the purpose of the above discussions are summarised in Table 8.2. Interestingly, only one of the modals (CANNOT) is used in an epistemic function. It seems that unlike in some spoken languages, expressing the signers' degree of certainty or belief state with respect to a proposition is not a major function of negative modals in UgSL.

The table also shows that none of the modal signs has exactly the same pattern of functions as another one, so all can be distinguished in terms of the categories used here. In some instances, additional semantic distinctions have been discussed above, such as the fact that MEET^NEG implies 'being unable to do something after trying and failing'.

			Speaker-oriented	Agent-oriented modalities			
Modal sign	Alethic	Epistemic	Deontic	Physical inability	Circumstantial inability	Skill-related inability	Desire
CANNOT	√	√	√	√	√	√	-
IMPOSSIBLE	√	-	-	√	√	√	-
MEET ^NEG	-	-	-	√	√	√	-
WONT	-	-	-	-	√	-	√
OKUGAANA	-	-	√	-	-	-	√
TEWAALI	-	-	√	-	√	-	√

Table 8.2: Functions of negative modals in UgSL

8.5 Negators borrowed from ASL

8.5.1 The sign NO

The sign NO is a borrowing from ASL, and its phonology (see Figure 8.20) derives from the ASL letters N and O. At the beginning of this study, it was expected that many instances of NO would be found in the corpus data, and in particular its use seemed to be more widespread among educated deaf people who have some competence in English. However, this was not borne out by the actual corpus data, which includes only 12 occurrences of this sign.

Figure 8.20: The sign NO

(UgSLD picture sign: 1032, Wallin et al. 2006)

The following extracts represent three of its twelve occurrences.

In the two extracts below, a signer is telling how her sister wanted her to get more water and bring it back in the jerrican (usually carried on the head by a woman and in the hands by a man). The signer uses NO as a rather strong form of negation here, and in the second extract explains to her sister that she must pay a delivery person on bicycle (known as a boda-boda porter in Uganda) to bring water. The strong negation shows that the signer wants to emphasise her family's newly middle-class status which means they can afford to pay for water delivery rather than carry it themselves.

(8-81) SAY STOP WATER POSS$_{1\text{-PU}}$ A-$_{\text{CL-HANDLING-HEAD-CARRY-JERRICAN}}$ PRO$_1$ **NO**

'I said I already have water, and if you want more, I won't be the one to carry it.'   (Uga_amongi_akullo.eaf00:00:18-22)

_____hs
(8-82) r: PRO$_1$ JERRICAN-WATER / PRO$_{3\text{-NEUT}}$ PAY BODA-BODA PORTER

l: **NO**---------------------------

'No, I won't get the water. You must pay the boda-boda porter to bring it.'

(Uga_amongi_akullo.eaf00:00:22-5)

The structure of these two extracts differs: in (8-81), NO is placed at the end of the clause, NO is two-handed and is negating the previous two forms: the classifier meaning 'carry the jerrican' (indicated in the gloss by A-$_{\text{CL-HANDLING-}}$ $_{\text{HEAD-CARRY-JERRICAN}}$) and the first person pronoun (indicated by PRO$_1$). Sentence (8-82) is the continuation of (8-81), and here NO continues on from the previous clause as the sign is held with the non-dominant (left) hand while the dominant hand performs the clause PRO$_1$ JERRICAN-WATER. However, this clause also

300

seems to be negated by the headshake (indicated by 'hs' in the gloss) rather than exclusively by NO.

Example (8-83) is from a political discussion in which a signer described a 2006 Ugandan presidential candidate's promise that he would vote against the graduated tax if elected. The sign FREE is used here because in Uganda, citizens are often hassled by government officials about whether they have paid their tax; the lifting of this burden is seen by the signer as 'freedom'.

(8-83) SAY MEAN LIFE FREE GRADUATED TAX **NO**

'(The candidate) meant (the villagers') lives would be free, through not having to pay the graduated tax.'   (Uga_Okwadi and Paul.avi.02:14-17)

The sign NO is also used on its own as a negative interjection, which may be used as a means of emphasis or as an answer to a closed question. In the next example, the researcher had asked the participant if she was married to a hearing man. She replied using the sign NO, and then added that her husband is Deaf. It is clear that NO stands alone here; if NO were to be placed after DEAF MARRY-HUSBAND, this would mean that her husband is not Deaf.

(8-84) **NO** / DEAF MARRY-HUSBAND

'No. My husband is Deaf.'   (Uga_anne.eaf00:04:50-1)

8.5.2 The sign NOT

The sign NOT (see Figure 8.21) is used in a wide variety of negative contexts, including refusal and denial. However, it appears only rarely in the data. This sign is a borrowing from ASL.

Figure 8.21: The sign NOT

(UgSLD picture sign: 447, Wallin et al. 2006)

NOT usually occurs before the form it is negating, such as an adjectival or verbal sign, but in some cases NOT may be placed after the form. Thus, in the case of NOT, UgSL seems to be adhering to Jespersen's Neg First principle (Horn 2001: 449), which states that the negator tends to appear before the form it is intended to negate. However, many other negative forms in UgSL do not seem to follow this tendency, as seen in Sections 8.3 and 8.4. In the following sentence, NOT occurs before the form it negates, namely the sign BRIBE. However, introspectively it seems that NOT could also appear after BRIBE and the sentence would still be grammatically correct.

(8-85) PRO$_1$-$_{\text{NEUT}}$ DECIDE CHOOSE **NOT** BRIBE-$_{\text{REDUP}}$

'I decide myself (who to vote for); I don't take bribes.'

(Uga_amuge_amongi.eaf.00:03:56-9)

NOT is contextually restricted and does not co-occur with all adjectival or verbal predicates. An ungrammatical example would be *PRO$_3$ NOT AWARE 'He is not aware'. The sign AWARE would need to be negated with a headshake or with PA, rather than with NOT. Unfortunately, NOT was too rare in the data for broader generalisations to be made about which predicates it co-occurs with. As mentioned in Section 2.2 in Part I, the UgSL community historically has had contact with ASL, which has led to the influence of additional negators borrowed from ASL.

8.6 Negative idioms

Though UgSL has many negative idioms, these were rare in the data because the participants were being filmed and were thus engaged in polite discourse; uttering a negative idiom would perhaps have been seen as inappropriate. Therefore, introspection must be relied upon in order to discuss instances of these forms. One example is given below:

(8-86) PRO$_3$ STICK-UP **NONE1**

'He is impotent.'

The negative idiom STICK-UP NONE1 ('impotent') derives from the visual image of a paw-paw being knocked from a tree. These trees cannot easily be climbed and can grow very tall, so commonly a stick is used to push the fruit

upwards which makes it fall off. The image of the fruit being pushed upward is used as a type of sexual metaphor in UgSL.

Another negative idiomatic structure found in the data was NOT WORK OBJECTIVE CHECK 'mind your own business' or 'stop being nosy'. This idiom appears in a dialogue about politics. The signer describes someone criticising a popular politician's financial circumstances, and then says a second person told the first to stay out of the politician's business:

(8-87) PRO$_3$ MAN POOR/MAN HOUSE PA/ NOT WORK OBJECTIVE **CHECK**

'(One person said) he is poor and has no house. (The other said) mind your own business.'   (Ug_amuge_amongi.eaf:00:01:27-33)

The phrase EYE-IX BADO in (8-88a below) is a common idiom in UgSL used to ask about news (and the meaning triggered by this idiom in fact does not contain negation). This is perhaps a sign language version of the spoken language phrase 'Have you heard any news?' However, without the interrogative non-manual features, this sentence is ungrammatical as shown in (8-88b).

<div style="text-align:center">_____br</div>

(8-88a) PRO$_2$ **EYE-IX** BADO

'Have you seen/heard any news yet?'

(8-88b) *__EYE-IX__ BADO

Instead of (8-88b), the answer to the question would have to be BADO on its own; a headshake or a response involving a negated predicate of cognition such as AWARE PA is also possible.

8.7   Negative responses

8.7.1   NO and headshake

To make a simple negative response in UgSL, one can use either a manual or non-manual form. The common manual form is a negative interjection glossed as NO (see Section 8.5.1 above), whilst the non-manual form is a headshake (see Figure 8.21 above). These can be performed singly or together.

An example of a response using manual negation exclusively is given in (8-89), whilst (8-90) includes a response using only non-manual negation:

```
                                    br
```
(8-89) WANT INJECTION-BUM/

'Do you want the injection in your bottom?'

NO

'No!'

(8-90) WANT PRO$_2$ EAT/

'Do you want to eat?'

```
            hs
```
'No.'

In UgSL, as in general (hearing) African culture, a negative response can also be signified by raising the shoulders. This means a response will not be forthcoming and/or the interlocutor is refusing to participate in the interaction. Hearing people also perform a side-to-side motion with their hands (see Nyst 2007 for more about gestures use by hearing people). It is interesting that the common thumbs-down gesture, which hearing people also use to indicate a negative response, is not used in UgSL (see also OKUGAANA in Section 8.4.2.1 above, which looks similar to a gesture used by hearing people to mean 'don't'.)

8.7.2 NOT-BOTHERED

Figure 8.22: The sign NOT-BOTHERED

(UgSLD picture sign: 1075, Wallin et al. 2006)

NOT-BOTHERED expresses a mixture of 'don't know' and 'not bothered', and is comprised of shrugged shoulders, sometimes performed with the hands turned palms-up, as well as a facial expression and body posture which convey

304

negation (see Figure 8.22 above). NOT-BOTHERED is sometimes performed only on the face (using a frown); i.e. it has an exclusively non-manual variant. The citation form of NOT-BOTHERED looks very similar to the shrugged shoulders gesture commonly used amongst hearing people to mean 'I don't know' or 'I don't care'. It is possible that NOT-BOTHERED incorporates the bound morpheme -NEG, as the movement in each appears similar (see Section 8.2.1 above on DHAIFU and Section 8.9 below on morphological aspects of negation). In some languages and cultures, this gesture is considered rather rude, but in African culture this gesture carries a great deal of meaning and is not rude. However, NOT-BOTHERED must be used with more caution and in more limited contexts in UgSL than in hearing African culture. Hearing people might use the sign to mean 'don't care', 'not bothered', or 'don't know'. But UgSL signers have many different signs with these meanings, so NOT-BOTHERED can only be used in certain contexts. For example when one is fed up with being asked questions, one might respond with the NOT-BOTHERED to indicate that one does not wish to be pestered any longer:

_____sq

(8-91) TAKE WHO

  'Who took that?'

      _____[shrug]

      NOT-BOTHERED

      'I don't know (and do not ask me again).'

The NOT-BOTHERED sign conveys denial and/or a refusal to participate further in the interaction. For this reason it is used commonly in contexts of possible wrongdoing as in example (8-91) above. In another instance from the data, NOT-BOTHERED is used to mean 'I have no idea (and will you please explain?).' This is shown in interaction (8-92) below, in which three interlocutors were involved. The researcher asked a question, and the two participants responded: one with NOT-BOTHERED (using the variant without the manual component) and one with UNDERSTAND+FAIL.

(8-92) A: FACIAL WH

   'Which facial expressions do you use (when you sign)?'

  B: _____sq_____[shrug]

     (body language) shoulder up lift

'I have no idea. (So will you please explain?)'

UNDERSTAND+FAIL

'I really have no idea what

you're talking about.'

8.7 Non-manual negation

8.7.1 Headshake as a basic clause negator

Headshakes are a very common feature of negation in UgSL. The headshake is one of UgSL's two basic clause negators, along with PA (see 8.3.1 above). The reader will have noticed that the headshake (glossed as 'hs') has already appeared in tandem with negative manual signs (as a lexical component) in many example sentences mentioned in this chapter. The headshake can also negate a clause entirely on its own. According to Zeshan (2005a:560 and 2006:20), in many sign languages non-manual features, in particular head movements, are primary negation markers in basic clause negation, with manual components as secondary. However, some languages, such as *Türk İşaret Dili* (TİD, Turkish Sign Language), use a 'manual-dominant system' in which manual signs are the primary markers of basic clause negation (ibid).

As flagged up in Part II of the thesis, facial expressions and headshakes functioning at supra-segmental level are often roughly equivalent to intonation in spoken languages, while manual negation signs are equivalent to spoken words. Negation in sign languages thus differs most dramatically from that in spoken languages in that suprasegmental features such as the headshake are integral linguistic components with important grammatical functions and constraints (Zeshan 2004, 2006; Quer 2012). By the same token, headshake negation also differs from the paralinguistic headshake gestures used by hearing people.

The headshake can begin sentence-initially or mid-sentence, but its scope always lasts until the end of the sentence; normally a headshake would not occur only from the beginning to the middle of a sentence. It is actually rare for a headshake to last for the entire duration of the sentence, unless the sentence is relatively short (e.g. two or three signs, as in 8-93 and 8-94). If the

headshake is performed throughout a sentence which has more than two or three signs, this may indicate emphatic negation.

         _____**hs**

(8-93) KAMPALA

     'This is not Kampala.'   (Uga_lule_akomele1.eaf00:01:53)

         _____**hs**

(8-94) PEN PRO$_{3\text{-COLL }z}$+GIVE$_1$

     'They didn't give me the pen.'

8.7.2 Use of headshake with negative signs

As mentioned briefly in some of the sections above, in UgSL the headshake is obligatory with some negative signs, but can be left out in other cases. Negators that require the presence of a headshake are: NEVER1, NEVER2, OKUGAANA, TEWAALI, WON'T, IMPOSSIBLE, and MEET^NEG. In addition, the signs NOT-BOTHERED (see Section 8.7.2) and all signs with morphological negation (see Section 8.9) always occur with headshake negation. By contrast, for some of the most frequent negators in UgSL, including PA, NONE and BADO, headshake negation is optional. For instance, in example (8-95), a question and answer sequence, both signers use NONE1 without headshake negation.

Context: Two women are talking about a 10-year-old girl and the fact that she does not seem to be going to school.

         _____**sq**

(8-95) A: TEN SCHOOL NONE1/

                           ___**tilt-bck**

     B: NONE1

     'At age ten, is she not in school? – No, she isn't.'

                                  (Ug_amongi_akullo.eaf00:01:12-14)

8.7.3 Scope of headshake negation

In relation to the scope of the side-to-side negative headshake, no clear pattern has been observed in UgSL. The headshake at times occurs clause-finally, or may have scope over a non-final part of the clause (examples 8-96 to 8-98). There are relatively few instances in the data corpus where the headshake negation strictly covers the whole clause. At times the non-manual negation

begins with a side-to-side headshake, and then the head is held in a sideways tilted position rather than continuing a side-to-side movement.

_____hs
(8-96) DRINK $_2$GIVE$_1$ TONO2 , MORE / $_2$GIVE$_1$ TONO2

'Please just give me one drink, no more.'

(Uga_zirintusa_nsega.eaf00:01:46-8)

_____hs
(8-97) PRO$_1$ LOVE UGLY / BEAUTIFUL LOVE

'The type of woman I love is ugly, not beautiful.'

(Uga_zirintusa_nsega.eaf00:00:47-51)

_____hs
(8-98) PRO$_1$ EVERYDAY GO-AND-COME WORK ENJOY PA

'I don't enjoy going to work every day.'

It is not clear whether the varying scope of headshake has any correlation with the distinction between clause negation and constituent negation. There is little in-depth work on these issues (cf. Quer 2012), and this issue is beyond the scope of this study.

Constituent negators can negate one of several parts of a clause such as tense, aspect, subject, or predicate: any of these can be the focus of the negation (Horn & Kato 2000: 8; Horn 2001:445-7). Negative affixes like English *un-* and *dis-* are a common feature of constituent negation (Horn 2001:468). Zeshan (2003b) claims that IPSL has no mechanism for constituent negation, so it would seem that constituent negation may not be a necessary feature of the grammar of all sign languages.

In spoken languages with a wider range of morphological and constituent ordering options, it is easier to make this distinction, although its usefulness has been contested for spoken languages too (see the discussion in Horn 2001:184ff). For example, in English:

(8-99a)   She is unhappy in her present job. – constituent negation

(8-99b)   She isn't happy in her present job. – clause negation

These two utterances are semantically equivalent but have a different structural organisation in terms of the focus of negation (on the adjective vs. at clause level). In UgSL, there would be no difference between the two, as only one structure is used (PRO$_3$ HAPPY PA).

A related issue is the difference between wide-scope and narrow-scope negation (cf. Horn 2001:490ff), which results in different semantics of the clause, typically when combined with another operator such as a quantifier in examples (8-100a-b).

(8-100a)   Not all are happy in their present job. (but some may be happy)

(8-100b)   All are unhappy in their present job. (nobody is happy)

Here the two English utterances have a different meaning because they differ with respect to the semantic scope of the negation.

In UgSL, it is doubtful whether two different structures with a different scope of the negation would be used in similar examples. It is unclear whether the scope of the UgSL headshake is used to make systematic distinctions between constituent and clause negation (in a syntactic sense) or between wide-scope and narrow-scope negation in a semantic sense.

On the basis of data here, the issue of constituent vs clause negation and wide-scope vs narrow-scope negation cannot be resolved. This would require a much more in-depth study and a different kind of data set. Typically, where these issues are discussed for spoken languages, they involve subtle distinctions and 'minimal pairs' of utterances such as the above examples from English. Working on these subtle distinctions also typically involves grammaticality judgments. On the basis of the UgSL data corpus and under the methodological conditions of a corpus-based approach, it would be unwise to advance an analysis, and such work needs to be reserved for future, more in-depth research.

8.9   Morphological aspects of negation

8.9.1 Negative bound morphemes

UgSL has two negative bound morphemes, glossed –NEG and ^NEG,[46] which cannot appear in isolation and are found only in combination with their host signs, i.e. appropriate base forms such as LIKE, KNOW or MEET (cf. Zeshan 2004:46-9, 2005a:560 on sign languages; Booij 2007:9 on spoken languages).

Both of these morphemes conform to the restrictions observed across sign languages for what Zeshan (2004, 2011) calls 'irregular negatives' (also see Quer 2012 on the use of this term). The negative bound morphemes, in UgSL as in other sign languages, are restricted and occur with a small group of predicates only. Moreover, these predicates are from a group of high-frequency predicates with specific domains of meaning (Zeshan 2004:50). –NEG seems to be an affix, whereas ^NEG is a clitic, because affixes are fused more closely with their host and are often more phonologically reduced than clitics (Zeshan 2004:46).

For UgSL, the semantic groups that are subject to negative affixation include predicates of cognition (KNOW, KNOW-WELL, UNDERSTAND), emotional attitude (LIKE, DENY) and evaluative judgment (POLITE).[47] UgSL is also in line with other sign languages in that all morphological negation occurs after the predicate being negated. There appear to be no negative prefixes in UgSL, which supports Zeshan's (2006:50) finding that such forms have yet to be observed in sign languages.

---

[46] The different notation –NEG and ^NEG reflect the fact that the two signs are integrated with their host signs to different degrees, -NEG being more closely bound to the host sign than ^NEG. See further discussion of this point in the conclusion section.

[47] Other semantic categories, in particular modals, aspect, and the negative existential, are also irregular negatives in UgSL, as many of the negators discussed in Sections 8.3 and 8.4 above are suppletive negatives, that is, the negative forms are entirely different from and unrelated to the positive counterparts.

8.9.1.1 The bound morpheme –NEG

Several negative UgSL signs exhibit an outward and/or downward movement, away from the body, with an open hand. Examples are KNOW-NEG, and LIKE-NEG (see Table 8.3.). These two negatives are phonologically similar to their positive counterparts LIKE and KNOW, except that the positive forms do not contain the outward/downward movement or negative non-manual features. Therefore, it seems that UgSL has a negative bound morpheme –NEG which is comprised of an open hand twisting away from the signer's body. It is important to note that the negative signs mentioned here must be articulated with their requisite non-manual features, including a headshake.

Negative forms exhibiting this outward/downward morpheme are depicted in the Table 8.3 alongside their positive counterparts:

8.3.1a	KNOW	8.3.1b	KNOW-NEG
8.3.2a	LIKE	8.3.2b	LIKE-NEG
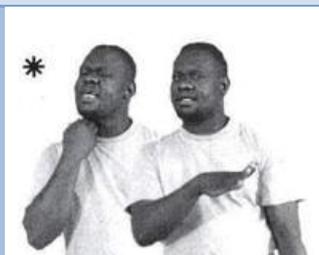
Table 8.3: Positive forms and their negative counterparts using bound morpheme -NEG

(The signs KNOW, KNOW-NEG and LIKE-NEG are UgSLD picture signs 24, 93, and 585, Wallin et al. 2006.)

The sign DENY also possibly includes the negative affix –NEG as well, although this is less evident. The pictures 8.4.1a-b show the signs ACCEPT and DENY, and the movement with an open handshape twisting away from the body in DENY is the same as in LIKE-NEG and KNOW-NEG. However, the positive counterpart ACCEPT has a different handshape with closing internal movement.
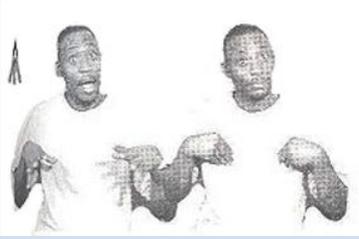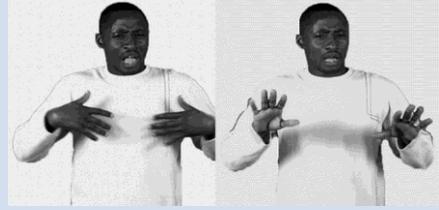
8.4.1a	 ACCEPT	8.4.1b	 DENY

Table 8.4: Positive forms and their non-affixed antonyms

(The sign ACCEPT is UgSLD picture sign 1381, Wallin et al. 2006)

It is possible to analyse this sign merely as a formationally related pair of signs with opposite movement, similar to sign pairs such as REMEMBER and FORGET discussed by Morgan (2006:117-8) for Japanese Sign Language. In this case, DENY would not include a negative affix. However, it is also possible to argue that DENY is in fact equivalent to ACCEPT-NEG, in which case addition of the negative affix has resulted in simplification of the movement of ACCEPT. A similar process can be seen, for instance, in FinSL, where NEED has a circular movement on the chest, but NEED-NEG only has a single tap on the chest (Zeshan 2004:48; Savolainen 2006:300). Support for the analysis of DENY as containing a negative affix comes from the fact that the obligatory headshake accompanying DENY does not negate the predicate. Moreover, it seems infelicitous or ungrammatical to use DENY with a clause negator to express the meaning 'not deny'; instead ACCEPT would have to be used. This pattern is the same as for LIKE-NEG and KNOW-NEG, but is different from signs that also have a similar final movement but clearly do not contain any negation, such as the sign GO-AWAY (Figure 8.23).

Figure 8.23: The sign GO-AWAY

Thus the pattern is as follows (see examples in Table 8.5 below):

8.5.1a	_____hs DENY 'deny'	8.5.1b	_____hs GO-AWAY 'not go away'
8.5.2a	_____hs ??DENY PA 'not deny'	8.5.2b	_____hs GO-AWAY PA 'not go away'

Table 8.5: Patterns with negating DENY and GO-AWAY

The final hand orientation of –NEG changes depending on the host sign (see pictures of KNOW-NEG and LIKE-NEG), and there is a degree of variation within one and the same sign too. –NEG appears frequently in the data, including the following example:

(8-101) 2h:B-$_{TL\text{-}NEU\text{-}BEFORE}$ HOME PRO$_1$ **KNOW-NEG** SIGN

'When I was a child, I did not know about sign language.'

(Ug_sty_flavie.eaf00:01:37-9)

There is another variant of LIKE-NEG in which the –NEG portion has a palm-up orientation. This variant appeared in the data, in sentence (8-102) below.

(8-102) LOOK PRO-$_{COLL\text{-}PL}$ **LIKE-NEG**

'I looked around and didn't like what I saw.'

(Uga_ssebenkitta_topher.eaf00:14:13-7)

This palm-up variant appeared only once in the data, and all other occurrences of LIKE-NEG ended palm-down. Therefore, it is difficult to conjecture about the reason behind the variation.

8.9.1.2 The bound morpheme ^NEG

Another bound negative morpheme ^NEG is seen in Table 8.6 with the host signs POLITE, UNDERSTAND and KNOW-WELL, showing the positive-negative sign pairs. ^NEG also has an open handshape, but there is no outward twist of the wrist. Instead, the hand moves sideways. Unlike for –NEG, the hand orientation and movement of ^NEG do not change either across or within the signs with which it is used. ^NEG thus seems less closely integrated with its host signs. For instance, UNDERSTAND and KNOW-WELL both have their own complete movements including internal handshape change.
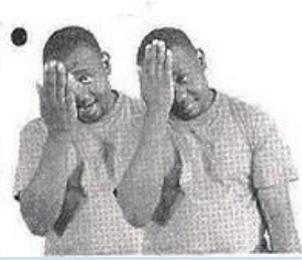
8.6.1a	 POLITE	8.6.1b	 POLITE^NEG
8.6.2a	 UNDERSTAND	8.6.2b	 UNDERSTAND^NEG
8.6.3a	 KNOW-WELL	8.6.3b	 KNOW-WELL^NEG

Table 8.6: Positive forms and their negative counterparts using the bound morpheme ^NEG

(The signs POLITE, UNDERSTAND and KNOW-WELL are UgSLD picture signs 30, 127, and 1032, Wallin et al. 2006.)

An example of ^NEG is given in (8-103). There may be some indication that ^NEG is productive to some extent, as the occurrence of the sign KNOW-WELL with ^NEG (see picture 8.6.3b) seems to be a relatively new phenomenon. This observation is based on introspection; unfortunately KNOW-WELL^NEG does not appear in the data. Its usage is demonstrated in the example sentence below.

(8-103)　　　RUGBY **KNOW-WELL^NEG**

　　　　　　'I don't know much at all about rugby.'

The negative morpheme ^NEG is very similar in form to a one-handed variant of the sign DHAIFU, described in Section 8.2.1 above. There is potential evidence for a grammaticalisation process linking these two forms (see Section 8.9.2).

8.9.2 Grammaticalisation of negative morphemes

In the context of the above data, it is pertinent to ask where the negative morphemes come from, and how they may have developed within UgSL grammar. The development of bound morphology, usually from free lexemes, can be accounted for using the theoretical framework of grammaticalisation. Originally, grammaticalisation was conceived of primarily as 'the shift of an independent word to the status of a grammatical element', according to Meillet (1948, in Sexton 1999:109). However, more substantial evidence of grammaticalisation reveals that grammaticalisation includes two stages, both of which also appear in sign languages: free lexical morphemes becoming free grammatical morphemes, and free grammatical morphemes becoming bound grammatical morphemes (Craig 1991, in Sexton 1999). Grammaticalisation processes often involve both of these steps, that is, a free lexical form first becoming a free grammatical form, then attaching to a host sign and becoming a bound grammatical morpheme (see Hopper and Traugott 1993). Thus grammaticalisation may proceed in several stages, though in an individual instance of grammaticalisation there may not be explicit evidence of each stage.

Regarding spoken languages, Heine and Kuteva (2002:2) posit four main phenomena that are the hallmarks of grammaticalisation: desemanticisation (semantic bleaching), extension of meaning to different contexts, decategorisation (loss of morphosyntactic characteristics), and erosion (phonetic reduction). These phenomena are applied to sign languages by Meir (2012:103) who states that many sign languages do not have enough time-depth for grammaticalisation to be substantially evident; rather, in sign languages there are perhaps several examples of forms in the process of grammaticalising. For example, Meir (2004) discusses a negative suffix in ISL which is grammaticalised from the existential negator. The grammaticalisation of forms in signed languages has been explored increasingly in recent publications, e.g. in work by Zeshan (2003b), Pfau & Steinbach (2007, 2011), and Sapountzaki (2012).

Considering the bound negative morphemes discussed above, for –NEG no source form or grammaticalisation process could be identified in the UgSL data. However, for ^NEG there is evidence that the morpheme has developed

from the lexical sign DHAIFU via a number of stages. The hallmarks of grammaticalisation quoted above can be found in this grammaticalisation process.

As discussed in Section 8.2.2, DHAIFU on its own is a semantically negative sign meaning 'of low quality' (example 8-12 is repeated here in 8-104 for reference).

_____sq_____\<pu\>
(8-104)   HOUSE **DHAIFU**

        'This house is not of good quality.'

This sign, as shown in Figure 8.7 in Section 8.2.2, is two-handed and the hands move outward away from each other. Sometimes this sign also has a one-handed variant; that is, one hand can be dropped. The morpheme ^NEG as described in the previous section looks very much like this one-handed variant of DHAIFU. However, further evidence is needed to support any claim that these two forms are indeed related and their resemblance is not merely a matter of chance. This evidence comes from the existence of intermediate forms that also exist in USL.

Figure 8.7.1a shows the positive form POINT 'clear or relevant information', 'important', 'high quality' (see Table 8.7.1a), which can be negated using DHAIFU. The combination of POINT and DHAIFU then means 'no point', 'off the point', 'poor quality', etc. Importantly, there are several variants of this combination, some less fused than others. These negative variants are shown in Table 8.7, and they have the following characteristics.

POINT DHAIFU - the two signs are completely separate, and each appears as it would appear when signed on its own

POINT+DHAIFU - here the movements are abbreviated, and the non-dominant hand only changes orientation to serve as place of articulation in DHAIFU, but does not have its own movement. This results in phonological shortening.

POINT^DHAIFU - here DHAIFU is one-handed as appears in exactly the same form as in the examples with ^NEG above (in fact, the sign may just as well be glossed POINT^NEG).

8.7.1a	The sign POINT	8.7.1b	POINT DHAIFU
		8.7.1c	POINT+DHAIFU
		8.7.1d	POINT^DHAIFU (POINT^NEG)
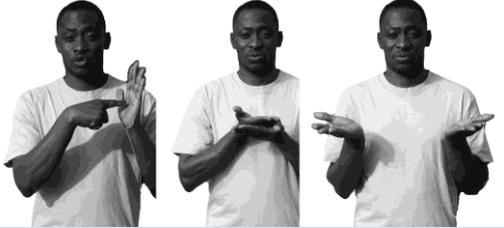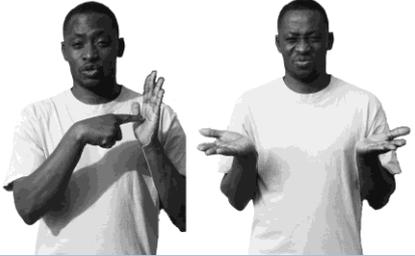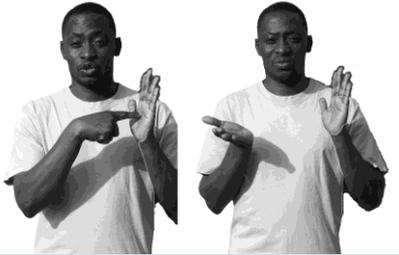
Table 8.7: Positive form POINT and its negative counterparts

These signs all still exist in present-day UgSL and show how different stages of phonological reduction (erosion) in progress, the result of which is the emergence of a bound negative morpheme (see Figure 8.24).

two hands: free lexeme (DHAIFU) → one hand: bound morpheme (^NEG)

Figure 8.24: Phonological erosion

Typically, grammaticalisation involves not only phonological change but also semantic change. The two-handed lexical sign DHAIFU 'poor quality' clearly has a more specific meaning, which is restricted to modifying certain nouns, e.g. houses or cars, or, in the example with POINT, an abstract term. The sign then

undergoes semantic bleaching (that is, it loses its specific meaning related to 'quality'), and extension to other contexts (that is, it starts to function as a negator). As a negative morpheme, the emerging meaning is grammatical rather than lexical, as indicated in Figure 8.25. Obviously, functioning as a negator also shifts the sign to a different grammatical category, and as pointed out above, ^NEG is restricted as to which signs it can occur with.
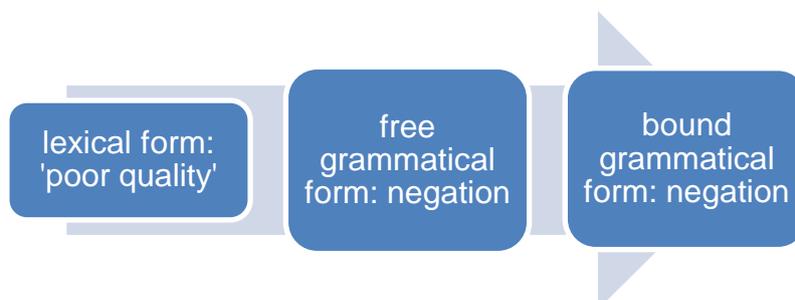
Figure 8.25: Desemanticisation and semantic extension

Interestingly, the example with POINT shows not only the gradual phonological reduction, but is also a semantic bridging context compatible with both the lexical and the grammatical meaning. That is, saying that a logical 'point is of poor quality' is more or less equivalent to saying that 'there is no (valid) point'. A connection such as this context helps explain how a shift in meaning can come about, particularly as the development of a negator from an adjectival concept of 'poor quality' seems uncommon in spoken languages and could not be found in the literature on spoken language negation. Thus UgSL seems to have a unique pathway for the emergence of a bound negative morpheme that has not been identified in other languages.

Interestingly, POINT can also be combined with the semantically negative sign WAT (see Section 8.2.1) as a compound. POINT+WAT means 'poor quality', 'unclear', 'not worthwhile', 'boring', etc., and seems to have a stronger, more emphatic meaning than POINT^DHAIFU, which is demonstrated by example sentences (8-105a-b) below.

(8-105a) LECTURER **POINT^DHAIFU**

'The lecturer is going off the point.'

(8-105b) LECTURER **POINT+WAT**

'The lecturer is absolutely terrible.' (implication: and he should be replaced).

Moreover, POINT+WAT may itself have developed into a further contracted form NONSENSE (see Figure 8.26 below), which uses a different handshape but has the same possible contexts. Indeed, NONSENSE could be substituted for POINT+WAT, and for POINT^DHAIFU, in examples (8-105a-b) above and the meaning would remain the same. This form may have resulted from the components of POINT+WAT being reduced to such an extent that they are no longer distinguishable or separable. Although the downward flat hand in NONSENSE is clearly similar to that of WAT, the initial handshape of NONSENSE is different and does not constitute a recognisable sign on its own. Unlike POINT+WAT, NONSENSE has no morphologically-related positive antonym. Thus it is possible that this initial handshape in NONSENSE may be a 'cranberry morpheme', i.e. akin to the English 'morpheme' *cran* which is actually meaningless.
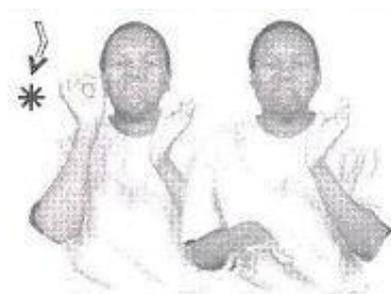
Figure 8.26: The sign NONSENSE

(UgSLD picture sign: 2087, Wallin et al. 2006)

The second part of NONSENSE is similar to the negative morpheme in MEET^NEG, but the hand orientation is different in these signs (in MEET^NEG the palms slide across each other while in NONSENSE the side of the dominant hand makes contact with the palm of the non-dominant hand). It is not clear at present whether POINT+WAT, NONSENSE and MEET^NEG could also be considered along any grammaticalicsation path. Further research is needed on these UgSL signs.

8.10 Conclusion

Like many spoken and signed languages, UgSL has a considerable range of negative constructions. However, UgSL negation includes several notable and perhaps unusual features in the realm of negation. Other sign languages may have only one or two negative modals corresponding to a positive one, e.g.

CAN and CANNOT (cf. Zeshan 2004), while UgSL has a rich array of negative modals including several with similar meanings but subtle semantic differences (e.g. CANNOT, MEET^NEG, IMPOSSIBLE).

The grammaticalisation of negators and negative morphemes in sign languages is a topic that appears in the literature (e.g. Meir and Sandler 2008 for ISL), and there is evidence of the grammaticalisation of negators in UgSL. At the level of negative particles, NONE may be a grammaticalised form of ZERO, and at the level of morphological negation, ^NEG seems to have developed from the lexical sign DHAIFU. This is an area that would benefit from further research.

Another interesting issue for future research is historical change, including the layering of negatives that originate from different sources. For instance, UgSL has borrowed negators from ASL (NO and NOT), and there are insufficient data in the UgSL corpus to ascertain how these negatives are currently embedded in UgSL grammar.

9   POSSESSION AND EXISTENCE

Possession is a relationship between two constituents, usually between a person/object and an entity that the person/object owns and/or controls. The grammatical notion of possession is often associated with ownership by a possessor of a possessum. *Possessum* means an entity that is owned, and the *possessor* is the being that is in ownership of the possessum, either in law or simply through having/using it.

The relationship and identities of the possessor and possessum can change depending on the grammar and/or context of the utterance. For example, in *Sam's boss*, Sam is the possessor, but in *the university's employee, Sam,* Sam is the possessum (Heine 1997; Payne & Barshi 1999; Lutalo-Kiingi 2008; Zeshan & Perniss 2008). Indicators of possession are referred to as possessives, and these may be predicative or attributive (Heine 1997:25). Predicative possession is verbal in nature, and the possessor and the possessum occupy the argument slots of the predicate. The predicative possessives of UgSL are considered in Section 9.2. Attributive possession (also known as nominal possession) refers to constructions such as *my shirt* or *Bonnie's computer*, and this type of possessive is explored in Section 9.1.

Possession is often associated with existence and location. Creissels et al. (2008: 132) claim that possessive predications that are more or less similar to existential predications are not rare among spoken languages. For sign languages, Zeshan & Perniss (2008:8) note that, cross-linguistically, there is much empirical overlap between the structures used to show possession and those used to express existence. This is certainly the case for UgSL, which exhibits considerable overlap in the use of both affirmative possessives and existentials, and their negative forms. Context plays a key role in delimiting the function of forms that may appear as possessives or existentials, and this is explored in Section 9.3.5.

Indeed, there are instances where it might make sense to interpret a form as indicating both possession and existence. Given the presence of some forms that fall clearly into only one category, such as POSS, it makes more sense to consider the two separately, but the overlap between the two categories should be kept in mind throughout this chapter.

9.1 Attributive possession

Attributive possession (also known as nominal possession) refers to constructions such as *my shirt* or *Bonnie's computer*, where the construction is nominal or phrasal (Zeshan & Perniss 2008:4). Possession in UgSL may be shown using pronominal possessives, emphatic possessives, or indexing, and syntactically, constituent order is also important in indicating possessive relationships. In some cases, the alienability of the possessum (the object of possession) is significant in determining the appropriate possessive.

9.1.1 Possessive pronouns

UgSL uses two signs to indicate possession: a possessive pronoun (POSS) and index points ($POSS_{IX}$). There is also an emphatic possessive pronoun, which is discussed in Section 9.1.3.

9.1.1.1 POSS

POSS functions in a similar way to possessive pronouns such as *mine* and *yours* in English. Turkish Sign Language (TiD) and Chinese Sign Language (CSL) are both examples of sign languages that use a functionally similar sign to POSS. POSS is modified spatially according to person. To indicate first person possession ($POSS_1$) the sign has a flat handshape, with the palm contacting the chest of the signer, as in Figure 9.1.

Figure 9.1: The sign $POSS_1$ (denoting first person possession)

(UgSLD picture sign: 669, Wallin et al. 2006)

The following is an example of a UgSL $POSS_1$ construction:

(9-1) CHILD PRO_3 **$POSS_1$**
       'That is my child.'

322

In a similar way, POSS$_2$ shows possession by the second person, and POSS$_3$ by the third person. In these cases, the palm faces away from the signer, and towards the possessor that is being referenced:

Figure 9.2: The sign POSS$_2$ (for second person)

The second person POSS$_2$ construction is shown in example (9-2) below, while example (9-3) from the data illustrates how the third person POSS$_3$ construction is used.

_____br
(9-2) **POSS$_2$** SIGN LANGUAGE

'Is it your sign language?'

(9-3) UNAD[48] OBJECTIVE **POSS$_3$**

'It is the UNAD's objective.'   (Uga _diriisa.eaf00:03:06-08)

9.1.1.2 POSS-$_{IX}$

UgSL distinguishes between alienable and inalienable possession in its use of possessive pronouns (cf. Baron et al. 2001:12). Inalienable possessions are 'inherently and permanently possessed' (Zeshan & Perniss 2008:7), and prototypical examples include body parts and kinship terms. An indexical sign with possessive meaning, glossed here as POSS-$_{IX}$, can be used to reference inalienable possession. POSS-$_{IX}$ is performed with the index finger sticking straight out and pointing to the possessor.

_____

[48] The UNAD (Ugandan National Association of the Deaf) is referred to in UgSL with the sign ASSOCIATION (UgSLD picture sign 1398, Wallin et al. 2006).

Figure 9.3: The sign POSS$_{3\text{-}IX}$

(UgSLD picture sign: 890, Wallin et al. 2006)

Figure 9.3, POSS$_{3\text{-}IX}$, refers to a third-person possessor. Example (9-4) shows how POSS$_{2\text{-}IX}$ (for second person) is used to denote possession.

(9-4)   MOTHER POSS$_2$-$_{EMP}$ CARE-FOR PRO$_2$ MOTHER **POSS$_{2\text{-}IX}$** CARE-FOR

'Does your mother care for you?'   (Uga_KCb.eaf00:08:39-42)

Examples (9-5a-b and 9-6) below illustrate three ways of signifying inalienable possession of body parts in UgSL. In some sign languages, a pointing sign (similar in appearance to the one glossed here as POSS$_{1\text{-}IX}$) is said to be used for first-person inalienable possession of body parts (e.g. Fenlon & Cormier 2006), but this does not apply to UgSL. For first-person inalienable possession of a body part, UgSL signers tend to omit any possessive/pronominal signs, and simply refer to the body part (using a body location), as in examples (9-5b) and (9-6) below (Lutalo-Kiingi 2007:48). In the case of second or third person, the pronoun POSS-$_{IX}$ must be used, as demonstrated in (9-5a).

_____br
(9-5a) COLOUR EYE **POSS$_{2\text{-}IX}$** WHAT

'What colour are your eyes?'

_____br
(9-5b) COLOUR EYE WHAT

'What colour are my eyes?'

_____br
(9-6)   PRO$_2$ THINK CHIN PROBLEM WHAT

'What do you think the problem with my beard could be?'

(Ug_mulesa_akol.eaf00:06:09-11)

In order to negate pronominal possession, a headshake can be used simultaneously with the POSS-$_{IX}$ sign. However, it is more likely that pronominal possessives will be negated emphatically, as this type of possessive is often used in an emphatic way. Interestingly, the same form (see Figure 9.3 above) may be used in a single utterance to have two different functions. In the following example (9-7), the first index finger point is a personal pronoun, while the second index finger point is a possessive pronoun.

(9-7)   SEE **PRO$_2$** MOTHER **POSS$_{2\text{-IX}}$** ESCORT OKUGAANA/

‘I saw your mother did not come with you to school.’

<div align="right">(Uga_KCa.eaf00:03:14-6)</div>

9.1.2 Alienability and possessive pronouns

Some languages differentiate between alienable and inalienable possession in their use of possessive pronouns (Baron et al. 2001:12) and this is true of UgSL. Alienable possessions are ‘those with whom it is possible to in some way sever or terminate the relationship of possession (e.g. through loss, sale, or theft)’ (Zeshan & Perniss 2008:7). As aforementioned, for inalienable possessums, a pronominal possessive relationship may be expressed without using POSS. In this case, POSS-$_{IX}$ is used to indicate the possessor.

In BSL, corpus analysis has indicated that possession of body parts and names is expressed with an index finger handshape (Fenlon & Cormier 2006) identical to POSS-$_{IX}$ in UgSL (which has many functions, including demonstrative and possessive). In contrast, the fist handshape (described here as POSS-$_S$), is used primarily to indicate alienable possession and kinship possession in BSL (see Figure 9.4). Similarly, UgSL expresses all alienable possession and some inalienable possession through POSS. Regarding kinship terms in BSL, 14% of the possessive relationships were expressed with POSS-$_{IX}$, while 86% used POSS-$_S$. If the handshape used in BSL to indicate possession is related to alienability, as Fenlon and Cormier contend, then it seems that body parts and names are treated as less alienable than kinship. This would also suggest that alienable possessums are more likely to be signified through handshapes that specifically indicate possession (e.g. POSS).

It is possible to compare the BSL data (see Figure 9.4) to the present corpus (see Figure 9.5) to determine whether the same holds for UgSL.
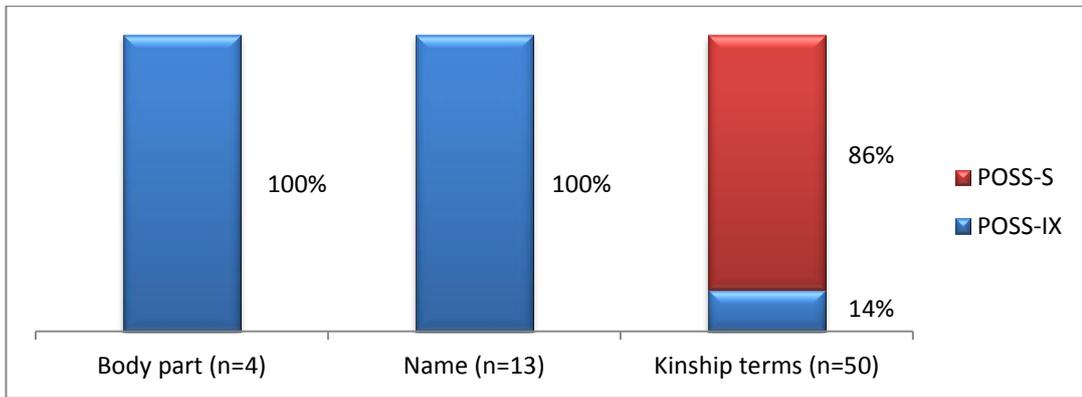
Figure 9.4: The proportion of POSS-$_S$ and POSS-$_{IX}$ with categories of possessums in BSL (Fenlon & Cormier 2006)

Interestingly, a comparison of Figure 9.4 and Figure 9.5 suggests that alienability seems to create a similar distribution between POSS-$_{IX}$ and POSS-$_S$ as BSL when it comes to body parts, though the expression of kinship and name possession differs in the two languages. (Unfortunately, data for an 'alienable' column for the BSL chart was not available.)

Seventy minutes of UgSL data were analysed and a total of 20 tokens for POSS-$_{IX}$ were found (represented by blue or the darker colour in Figure 9.5). These were all linked to possessums in the categories of body parts, names or kinship terms (parents, siblings, children and other relatives), all of which are considered to be inalienable. Interestingly, 13 of these tokens refer to the first person, with four and three tokens for second and third person, respectively. This suggests that POSS-$_{IX}$ is used more to indicate first person possession.
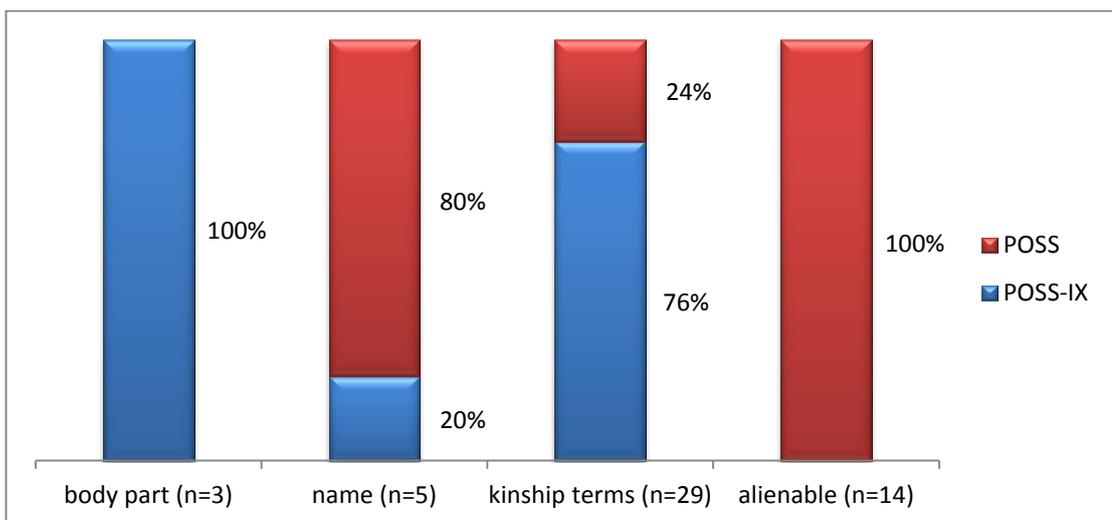
Figure 9.5: The proportion of POSS and POSS-$_{IX}$ with categories of possessums in UgSL

Twenty-four tokens for POSS were found, and are represented in red or the lighter colour in Figure 9.5 above. These included inalienable possessums (name and kinship terms) and alienable possessums. The latter category includes the possessums listed in **Table 9.1** below.

Type of possession	inalienable	Alienable
Possible forms in UgSL	POSS-$_{IX}$, POSS	POSS
Examples of possessums from the data	body parts, names, sign names, kinship terms (parents, siblings, children, other relatives)	campaign, law, sign, language, resignation, decision, objective, association, communication method, interpreter

Table 9.1: Expression of alienable and inalienable possession in UgSL

The majority (two-thirds) of inalienable possession is shown using POSS$_{1}$-$_{IX}$ as in example (9-8). All alienable possession is shown using POSS as in example (9-9), which suggests that it may be ungrammatical to show alienable possession using POSS-$_{IX}$.

(9-8)   GIRL+SHOULDER: $_{SISTER}$ **POSS$_{1}$-$_{IX}$** SAY STOP2

'I told my sister to stop (carrying the jerrican).'

(Ug_amongi_akullo.eaf00:00:15-7)

(9-9)   ASSOCIATION **POSS$_{1}$-$_{PU}$** POSS-EXIST$_{+z+y+x}$ FS:UNAD OBJECTIVE

'The branches of the UNAD each have their own objectives.'

(Uga_mulesa.eaf00:04:09-11)

To summarise, the pronominal possessive POSS-$_{IX}$, described above, may not be used if alienable possession is being described. Conversely, POSS may be used to show either alienable or inalienable possession.

9.1.3   Emphatic possession

Another sign for possession can be used in some situations to indicate either alienable or inalienable possession: this sign is an emphatic possessive, glossed here as POSS-$_{EMP}$. This type of possessive tends to imply a closer, more emphatic and permanent relationship than those explained above.

POSS$_2$-$_{EMP}$ (second person) and POSS$_3$-$_{EMP}$ (third person) are performed with a bent handshape which flicks out to a completely flat handshape, with the palm facing downwards.[49] The mouth gesture <ma> appears at the same time as the flick.

Figure 9.6: The sign POSS$_2$-$_{EMP}$ (for second person)[50]

(UgSLD picture sign: 665, Wallin et al. 2006)

When used to show possession by the first person, the sign is modified spatially (POSS$_1$-$_{EMP}$, see Figure 9.7). The handshapes are identical, but the sign is articulated closer to the chest of the signer, and the movement is the inverse of POSS$_2$-$_{EMP}$ and POSS$_3$-$_{EMP}$, flicking inwards instead of outwards. The same mouth gesture <ma> is used.

Figure 9.7: The sign POSS$_1$-$_{EMP}$

(UgSLD picture sign: 661, Wallin et al. 2006)

---

[49] These lexical and semantic similarities suggest that historically, POSS$_2$-$_{EMP}$ may be a derivative of POSS$_2$.

[50] The final orientation of the sign was changed slightly so that it would be easier to see in the photograph.

It is clear from the data analysis that the topic of conversation has an effect on the use of possessive pronouns. POSS$_{1}$-$_{EMP}$ is only used a few times, which is not surprising given that it is the kind of emphatic sign that might be restricted mainly to disputes, when a signer is asserting his or her ownership of a particular possessum. This situation is arguably not likely to arise frequently in a spontaneous dialogue. In contrast, POSS$_{2}$-$_{EMP}$ appears three times and POSS$_{3}$-$_{EMP}$ appears four times in the data. These signs are used where the informants need to offer clarification on the identity of the topic, or subject. In (9-10), the signer, Akullo, describes a member of her family and uses POSS$_{3}$-$_{EMP}$ to show the possessive relationship between her sister and her sister's daughter.

_____t

(9-10) POSS$_{1}$-$_{IX}$ GIRL+SHOULDER: $_{SISTER}$ GIRL+CHILD: $_{DAUGHTER}$

_____<ma>

POSS$_{3}$-$_{EMP}$ GIRL+SHOULDER: $_{SISTER}$

'My sister's daughter (my niece)'   (Ug_amongi_akullo.eaf.00:01:32-35)

One of the few occurrences in the data of the POSS$_{1}$-$_{EMP}$ construction is shown in example (9-11).

(9-11) BUILD++ **POSS$_{1}$-$_{EMP}$** HOUSE

'My own house has been built.'   (Uga-lule_akomele2.eaf00:13:13-6)

(9-12) PRO$_{1}$ ENDURE TAKE-IN-THROUGH-VISION$_{+x+y+z}$ SIGN

_____<ma>

LANGUAGE POSS$_{3}$ **POSS$_{3}$-$_{EMP}$**

'I kept silent and learned through observation about their Kenyan Sign Language.'   (Ug_sty_flavie.eaf00:03:00-4)

The signer emphasises that Kenyan Sign Language (KSL) is owned by the Kenyan Deaf community by using POSS$_{3}$-$_{EMP}$.

POSS-$_{EMP}$ can be negated to show that an entity is not owned by an individual, by adding a headshake (see Chapter 8 on negation), as illustrated in example (9-13) below. The <ma> mouth gesture used in the citation form of POSS-$_{EMP}$ is not altered when negation is present.

_____hs

_____<ma>

(9-13) DEM-$_{IX+x}$ **POSS$_1$-$_{EMP}$**

   'It isn't mine!'

The negative form of POSS$_1$-EMP is also used idiomatically in UgSL to mean 'Whose is it?', or 'I don't know who that thing belongs to!'

   Introspection suggests that in western Uganda, it is possible to use POSS$_1$-$_{EMP}$ to refer to ownership of cows, as in example (9-14) below. However, in central Uganda, POSS$_1$-$_{EMP}$ does not appear with the possessum COW; rather, POSS-EXIST$_{+x}$ would be used, as in example (9-15) below. This is perhaps due to the relative lack of cows in central Uganda.

(9-14) COW **POSS$_1$-$_{EMP}$**

   'My own cow'

(9-15) (PRO$_1$) COW **POSS-EXIST$_{+x}$**

   'My cow is there.'

9.1.4 Ellipsis of the possessive pronoun in UgSL

Possession is not always explicitly indicated in UgSL, unlike in some other languages such as English. As illustrated in examples (9-16) and (9-17), it is very common for the first person possessive pronoun to be dropped, especially when the nature of the possessive relationship is clear from the context. This may be linked to register, as all of the data has been collected from informal situations, where signers know each other and most if not all of the personal referents.

(9-16) **(POSS$_1$)** HUSBAND HEARING

   'My husband is hearing.'   (Uga_KCb.eaf00:09:54)

(9-17) **(POSS$_1$)** SISTER WATER JERRICAN-WATER

   'My sister's water container/ jerrican.'   (Ug_amongi_akullo.eaf00:00:08-11)

Perhaps because of this ellipsis, POSS$_1$ forms are not as frequent in the data as one might expect. It may be interesting to see whether, in more formal situations, the frequency of POSS$_1$ would increase. Another example is where the possessum is part of, or on, the signer's own body. For example:

(9-18) STOMACH-IX

      'My stomach' (Ug_mulesa_akol.eaf 00:02:42)

As mentioned in Section 9.1.1.2 above, explicit first person possessive forms are not used to express possession of body parts. However, if the signer were to refer to the stomach of an interlocutor, s/he may use $POSS_2$, $POSS_{2\text{-IX}}$ or $POSS_2\text{-}_{EMP}$ if the meaning was not clear from the context alone.

9.1.5 Ambiguity of personal and possessive pronouns

The function of the form glossed here as either $POSS\text{-}_{IX}$ (a possessive pronoun, e.g. $POSS_{1\text{-IX}}$ 'my') or PRO (a personal pronoun, e.g. PRO_1 'me' or 'I'), is not always clear. This form appears in the data in contexts where it could be considered as either possessive or personal; for example, see (9-19a) and (9-19b) below. In some cases, when translating occurrences of this form in the data, it was necessary to make a guess as to which gloss should be used.

(9-19a)   JERRICAN-WATER-FLOW-$_{REDUP}$ **PRO_1** RESPONSIBLE PRO_1 PA

                'I am not responsible for carrying the jerrican.' (PRO_1 = personal pronoun)

(9-19b)   JERRICAN-WATER-FLOW$_{REDUP}$ $POSS_1\text{-}_{IX}$ RESPONSIBLE **$POSS_{1\text{-IX}}$** PA

                'Carrying the jerrican is not my responsibility.' ($POSS_{1\text{-IX}}$ = possessive pronoun) (Ug_Amongi_Akullo.eaf00:31-33)

Another sign with a similarly ambiguous meaning is that glossed here as $POSS_{1\text{-B}}$ when it functions as a possessive pronoun, and $PRO_{1\text{-B}}$ when it functions as a personal pronoun. This form consists of a bent flat hand with the fingertips against the chest, and its ambiguity is illustrated in (9-20) below. In this instance, the form could be glossed as either $POSS_{1\text{-B}}$ or $PRO_{1\text{-B}}$, because it is unclear whether the form is indicating 'my' (as in 'my niece') or 'me' (as in 'asked me'). The former has been selected here, because the researcher was privy to the background of the utterance, and knew that GIRL referred to the signer's niece. If the form was $PRO_{1\text{-B}}$, the utterance would require clarification as to who the girl was. However, space constraints here prevent further investigation of this area.

(9-20) MZEE: _{OLD-PERSON} $_2$ASK$_1$ **POSS$_{1\text{-}B}$** GIRL $_2$COME$_1$

      'My grandmother asked me to bring my niece (her great-granddaughter).'

<div align="right">(Ug_Amongi_Akullo.eaf01:48-51)</div>

9.1.6 Constituent order, syntax, and possession with two nouns

Possession may be shown syntactically by juxtaposing the possessor and the possessum. This must be in the order possessor-possessum (rather than possessum-possessor). For example:

     _____t

(9-21) SN:ALEX CAR

     'Alex's car'   (Ug_int_max.eaf00:04:11-2)

     _____t

(9-22) WOMAN BUSINESS

     'The woman's business'   (Uga_anne.eaf00:07:15-6)

Additionally, in these examples the roles of possessor and possessum are reinforced by animacy, as one is animate and one is inanimate. It is evident that the animate noun possesses the inanimate noun. In cases where both nouns in the possessive relationship are animate (for example, a friend and a brother) more information may be added in order to mark the roles of possessor and possessum. Extra possessive particles (such as POSS-$_{IX}$ and POSS-$_{EMP}$) may be used, with non-manual features indicating the possessor as the topic of the utterance, and prosodic features (such as a slight pause) separating the possessor and the possessum (see Section 9.1.1 above).

     _____t _____<ma>

(9-23a)   BROTHER **POSS$_{1\text{-}IX}$ POSS$_{3\text{-}EMP}$** FRIEND

            'My brother's friend'

     _____t _____<ma>

(9-23b)   **POSS$_{1\text{-}IX}$** FRIEND **POSS$_{3\text{-}EMP}$** BROTHER

            'My friend's brother'

(Note that POSS$_{1\text{-}IX}$ may precede or follow the possessum.) In cases where both possessor and possessum are inanimate, the 'possessive' relationship is often clear from the spatial configuration of the manual signs themselves (e.g. in

the signs used to mean 'the car's wheel', or 'the watch's face'). Further conclusions about relationships between two inanimate nouns would require more research.

9.2 Predicative possession

All types of possessive predication that have been found around the world are attested among African languages, including transitive verbs similar to the English *have*, which are common on the continent (Creissels et al. 2008:132).

9.2.1 POSS-$_{PU}$

UgSL is one of those languages that uses a verbal possessive form equivalent to *have.* POSS-$_{PU}$ 'have' usually occurs at the end of a clause. This sign may be spatially marked for subject agreement, or it may occur in an uninflected, 'neutral' form. Other sign languages with possessive signs that can be inflected in space include those of South Korea, China, Brazil and Germany (Zeshan & Perniss 2008:19). The forms glossed here as POSS$_{2-PU}$ and POSS$_{3-PU}$ (see Figure 9.8 below) are restricted to second and third person contexts, respectively, while POSS$_{1-PU}$ refers to the first person. In contrast with POSS$_{2-PU}$, which has an open handshape with the palm facing upwards, POSS$_{1-PU}$ is articulated with the side of the hand making contact with the signer's chest. Both variations include puffed cheeks.
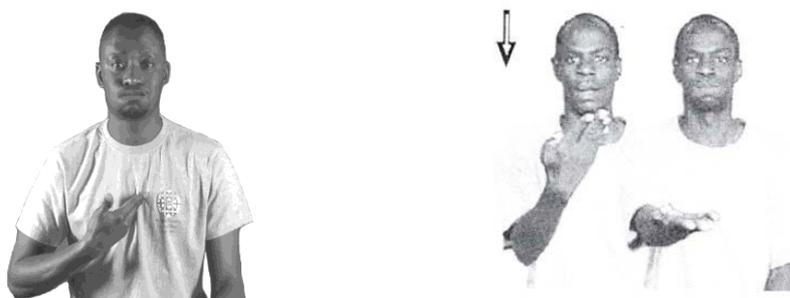
Figure 9.8: The signs POSS$_1$-$_{PU}$ and POSS$_2$-$_{PU}$ / POSS$_3$-$_{PU}$

(UgSLD picture sign: 658, Wallin et al. 2006)

In previous research (e.g. Lutalo-Kiingi 2007), the signs glossed here as POSS$_{1-PU}$, POSS$_{2-PU}$ and POSS$_{3-PU}$ were called HAVE:I, HAVE:f and HAVE:l or r, respectively. The glosses were changed to reflect the fact that these forms function as both possessive and existential verbs; thus, POSS$_{1-PU}$, POSS$_{2-PU}$

and POSS$_{3-PU}$ are distinguished from EXIST (see Section 9.2.3 below), though the forms appear to be the same. The following is an example of a first person POSS$_{1-PU}$ construction in UgSL.

(9-24) PEN BLUE **POSS$_{1-PU}$**

   'I have a blue pen.'

9.2.2 Possession and deixis

Since POSS-$_{PU}$ can point in the direction of the clausal subject or object, it often has a locative function, which might be considered demonstrative or deictic.

Heine (1997:41) notes that in many, and perhaps all, languages, 'existential and possessive constructions are related to locatives or, to cite a slightly different perspective, possession belongs to the same general category as location.' Indeed, Lyons (1977) argues that possessive constructions are 'derived' from locative constructions. Lyons (1977) and Clark (1978) both discuss the linguistic and conceptual affinity between the domains of possession, existence, and location, and Heine (1997, in Zeshan and Perniss 2008:6) contends that these can be traced back to shared source domains from which expressions of possession have grammaticalised. In order to explain the derivation of possessive constructions, Heine (1997) refers to eight different source domains called 'event schemas'. Some sign languages, such as BSL, use predicative possessives that derive from Action Schema, where the original meaning of the sign referred to taking, holding or grabbing an entity.

According to Zeshan and Perniss (2008:7), Heine (1997) notes the effect of 'areal forces', and in the case of the African continent, languages similarly exhibit possessive structures derived from the Action and Location Schemas, and additionally from the Companion Schema. However, POSS-$_{PU}$ in UgSL does not appear to have derived from the Action Schema nor the Companion Schema: rather, it has an affinity with what Heine describes as the Location Schema, where the possessum is encoded as the subject and the possessor as a locative complement (Heine 1997:51).

The relationship in UgSL between possessives and location, or spatial marking for subject agreement, means that POSS-$_{PU}$ can be used to refer to loci in the signing space that are associated with abstract/non-visible entities (see

Chapter 6 on pronouns). It is worth emphasising that POSS-$_{PU}$ does not always have a locative or sign-spatial function. As mentioned above, in some cases POSS-$_{PU}$ does not appear to be associated with a locus in the sign space, since there is no referential element. In these instances, POSS-$_{PU}$ may be regarded as 'neutral' or 'unmarked', as it is uninflected for person or subject. Thus, the possessor may not be associated with any locus in the signing space. This form is shown in Figure 9.8 above.

(9-25) WHO CALL WHO **POSS-$_{PU}$** IDEA GOOD IDEA

'Who should we ask? Who has ideas… good ideas?'

(Ug_amuge_amongi.eaf00:02:59)

9.2.3 Existentials

While POSS-$_{PU}$ inflects according to person (i.e. the possessor), the sign EXIST 'it exists' or 'it's there' inflects according to the location of existence. This location is dependent upon the locus that is used to represent the space where the entity exists. The locus may be a geographical reference (e.g. 'Kampala is in that direction') or a topographical reference, whether actual (e.g. 'the computer is right here') or imagined (e.g. 'in my ideal office, the computer would be there in the corner') (see MacSweeney et al. 2002; Zeshan 2003b:85).

The inflected forms EXIST$_{+y}$, EXIST$_{+z}$ and EXIST$_{+x+y+z}$ or EXIST-$_{DISTR}$ (a plural inflected form showing existence at more than one location) are all possible.

Here, the sign EXIST makes an exophoric reference (i.e. a reference to something outside the utterance), pointing to the location of the conversation (locus d):

(9-26) **EXIST$_{+REDUP+d}$**

'(It's) definitely here.'[51] (Uga_ssebenkitta_topher.eaf00:17:51)

---

[51] It is possible that this form (EXIST$_{+REDUP+d}$) could be read as possessive as well; however, space limitations preclude further consideration of this here.

It is also possible to describe oneself as being at a certain location using the same construction, but making an endophoric reference (i.e. a reference to something inside the utterance):

(9-27) OFFICE PRO$_1$ **EXIST$_{+d}$**

'I was at the office!'

As shown in (9-28), EXIST can also co-occur with negative forms such as NONE$_1$ (see Section 9.3 on negative possessives and existentials).

(9-28) FOOD **EXIST$_{+z}$** NONE$_1$

'There is no food.'

Other examples from the data of existence involving second/third person and other locations may be found below (see examples (9-29 and 9-30). In example (9-28), an informant describes an event that had taken place earlier that day, the launch of a UgSL dictionary. He refers to the dignitaries who were present at the event by using EXIST$_{+x/y/z}$, where x, y and z or distributive ($_{DISTR}$) indicate the chairs that the dignitaries occupied while they were in attendance.

(9-29) r: SIT   FS:MP MINISTER EDUCATION

    l: **POSS-EXIST$_{-DISTR}$**

'The MPs and the Minister of Education were sitting here, here and here.'

(Ug_int_max.eaf00:06:58-07:01)

(9-30) DEAF SCHOOL **EXIST$_{-DISTR}$**

9.2.3.1   The height-distance relationship

There appears to be a relationship between the height/angle of the sign relative to the ground, and the distance of the referent. Referents that are further away are located higher in the signing space, at a greater angle from the ground. Signs that are associated with those referents may also be located in the same part of the signing space. In example (9-31), when referring to Kenya, the sign is located higher in the sign space, whereas the reference to Uganda (in the same conversation) is lower down.

(9-31) KENYA2 **EXIST$_{+uz}$**

'Kenya does have (all those things).'   (Uga_anne.eaf00:02:19-20)

336

These references are exophoric and non-absolute, since the locations pointed to do not necessarily correspond to the actual direction of the referent relative to the signer.

9.2.3.2 Referring to different parts of Uganda

Within Uganda itself, there appears to be a relationship between different parts of the country and areas of the sign space. It is as if the signer is using a map of

Uganda (see Figure 9.9 below), with Kampala towards the lower centre of the sign space. From the signer's own view, the area to the right of the signer seems to be associated strongly with the eastern part of Uganda, while the area to the left is similarly associated with the western region.

Figure 9.9: Map of Uganda

Kampala is located towards the bottom of the signing space in example (9-32), with the use of a pointing sign. In example (9-33), someone describes having moved from northern Uganda to Kampala. The sign MOVE begins at the top of the signing space and moves downwards.

(9-32) KAMPALA **EXIST-$_{IX+y}$**

'Kampala is there.'   (Uga_ssebenakitta_topher.eaf00:02:33-4)

(9-33) BOSS TEWAALI BEST **MOVE$_{+ux-d}$**

'The boss said no, she better move (out of the war-torn northern region), to Kampala.'   (Uga_lule_akomele2.eaf00:12:38-9)

In example (9-32), the signer uses EXIST-$_{IX+y}$, which has a similar meaning and function to EXIST, but is perhaps more unambiguously locative. (It is recognised here that there may be cause for delineating between ix forms that primarily express existence and those that express location; but this must await future research.)

In example (9-34), someone in Ngora town, in the eastern part of Uganda, refers to Kampala (which is to the west of Ngora) by pointing to the left part of the signing space (associated with the west).

337

(9-34) r: KAMPALA UNAD

l: **EXIST_{+uz}**

‘The UNAD is in Kampala, which is over there to the west.’

<div align="right">(Okwadi_paul.avi01:17)</div>

Example (9-35) shows how other countries may be referred to. It is likely that the UK is known by the informant to be far to the north of Uganda. It is located using a pointing sign in the top of the signing space, and this is contrasted with locations in Uganda (which are located lower down in the signing space).

(9-35) r: FS:ADD[52] FS:UK-------------

l: **EXIST_{+uz}**

‘ADD’s international headquarters is in the UK.’

<div align="right">(Uga_lule_akomele2.eaf00:10:38-40)</div>

In example (9-35), EXIST_{+uz} is articulated with the signer’s left hand but is directed at the right side of the signing space, which is associated with the west of Uganda. This illustrates the fact that the choice of right or left hand for the articulation of EXIST does not depend on whether the signer is pointing to the left or right side of the signing space. Either hand may be used, but in some cases it is clear that the choice is influenced by simultaneity. For example, the sign LIRA (a city in northern Uganda) is usually performed with the dominant hand, so EXIST would need to be articulated with the left hand in a simultaneous construction.

Example (9-36) is part of a narrative describing a woman who is born in a village in the district of Apac. The village is located in the signing space with the sign EXIST_{+uz}, which is articulated by the dominant (in this case, the right) hand, in the upper right area of the sign space. A few seconds later, when referring to a school in the village (with the sign P+SIX, for ‘year 6 of primary school’), the signer points to the same locus, but with the non-dominant hand. This switch from dominant to non-dominant hand occurs because, as shown in example (9-

---

[52] The agency Action on Disability and Development (ADD) is an NGO which supports rights for disabled people, and has a branch in Uganda.

36), the dominant hand is used to complete the sign P+SIX while the non-dominant hand simultaneously locates the referent as being in the village.

(9-36) r: P+SIX------------

      l: DH: P-HOLD **EXIST$_{+uz}$**

      'Year 6 in the primary school there'   (Ug_amongi_akullo.eaf00:03:47)

EXIST used for exophoric references may also be made to real-life locations, where these are salient (see example 9-32 above).

9.2.4 POSS-$_{PU}$ or EXIST?

Given that POSS-$_{PU}$ and EXIST share the same form, it is worth considering how signers distinguish possession from existence. It is possible that animacy plays a role in delimiting between a possessive and an existential interpretation. It *might* be the case that, where the object is animate and there is no location, POSS-EXIST is more likely to be a possessive. However, more research is needed before this hypothesis can be validated or rejected.

Another hypothesis relates to the non-manual feature <puff>. This feature often appears at the same time as the manual sign, but its function is not yet clear. It is possible that this non-manual feature is more indicative of possession than existence, and <puff> may have a role to play in distinguishing between the two meanings for some signers. Alternatively, it might be that <puff> is used to add emphasis. Again, more research is needed to determine whether this is the case. What is clear is that context has a key role to play in interpreting the meaning of the utterance. Take the following hypothetical example:

(9-37a-c) (POSS$_1$) WIFE **POSS$_{3}$-$_{PU}$** or **EXIST$_{+x}$**

There are at least three possible ways of interpreting this. Pronoun drop might influence the ambiguous interpretation.

(9-37a)   In response to the question 'Do you have a wife?', the sign could be glossed as POSS$_{3-PU}$ ('Yes, I have a wife').

(9-37b)   However, if a man is talking to a friend, and the man's wife joins the conversation, the man might use the same phrase to show that his wife is

approaching. In this case, it would mean 'Here is my wife!', in which case POSS-EXIST$_{+x}$ could be interpreted to mean 'exist'.

(9-37c)   There is also a third option: if the man is talking to someone he has just met, and that person asks him 'Do you have a wife?', it could be that his wife is standing nearby, in which case WIFE POSS-EXIST$_{+x}$ could function as both a possessive and an existential (where x is the location of his wife relative to the conversation).

In some cases, therefore, it makes little sense to interpret a form as either POSS$_{3-PU}$ or EXIST$_{+x}$, and POSS-EXIST$_{+x}$ is a better way of glossing this. A similar conclusion was reached by Zeshan and Perniss when looking at Adamorobe Sign Language and Kata Kolok. They argue that locative, existential and possessive constructions overlap to such an extent that it is often impossible to categorically apply a single label to the construction (Zeshan & Perniss 2008:22).

Context is often crucial for interpreting the meaning of possessive and existential structures. Consider the hypothetical example (9-38).

(9-38) OFFICE PRO$_1$ **POSS-EXIST$_{+z}$**

In response to the question 'Where were you yesterday?' POSS-EXIST$_{+d}$ would likely have an existential function ('I was at the office'). Yet in response to the question 'Do you have a place to work?', the form POSS-EXIST$_{+d}$ would function as a possessive ('I have an office'). The gloss POSS-EXIST reflects the fact that both interpretations are possible.

Meaning is so often inferred from the context of an utterance, that personal pronouns may sometimes be dropped altogether. Indeed, many languages show similar structuring of locatives, existentials and possessives (Herslund & Baron 2001:5-9). But this is not a problem in UgSL, as in context the meaning is obvious for sign language users.

9.2.5 POSS-EXIST

As mentioned in the previous section, a dual meaning is conveyed by the form glossed here as POSS-EXIST. The sign POSS-EXIST does not inflect for first

person, though it can be used to refer to first person possession. It always conveys existence as well, no matter who/what the possessor is. The dual meaning of POSS-EXIST is shown in the following example sentence:

(9-39) CAR **POSS-EXIST$_{+z}$**

    'My car is there.'

In this situation, POSS-EXIST might be considered to indicate both the possession and existence of the car, representing both possession ('my car') and existence ('is there').

9.2.6 Summary of possessives and existentials

Four different possessive and existential forms have been identified and described thus far, and these are listed in Table 9.2 according to their functions. Each horizontal row represents one sign, and the columns across indicate the different possessive, possessive-existential and existential functions that each sign can take on (all three functions for the first sign, possessive and existential functions for the second sign, and possessive-only function for POSS-$_{EMP}$ and POSS). In this case, the same sign has been glossed in different ways on the horizontal rows in this table in order to focus on the functional distinctions.

possessive	possessive-existential	existential
POSS-$_{PU}$ POSS-$_{IX}$ POSS-$_{EMP}$ POSS	POSS-EXIST	EXIST EXIST-$_{IX}$

Table 9.2: Forms expressing possession, existence, and both

Some of these forms have been described as having a potential locative function as well as an existential function, and Figure 9.10 attempts to show the extent, or degree, to which these seven forms have possessive, existential and locative functions. It should be noted that placing is tentative, and more research is necessary in order to confirm their functions. It is clear that POSS-$_{IX}$, POSS-$_{PU}$, POSS-$_{EMP}$ and POSS have no locative or existential functions. EXIST and EXIST-$_{IX}$ both have the potential to include information about location, so they have been placed half way between 'locative' and 'existence'. Finally,

POSS-EXIST has been positioned half way between possession and existence, but may also include some locative function.
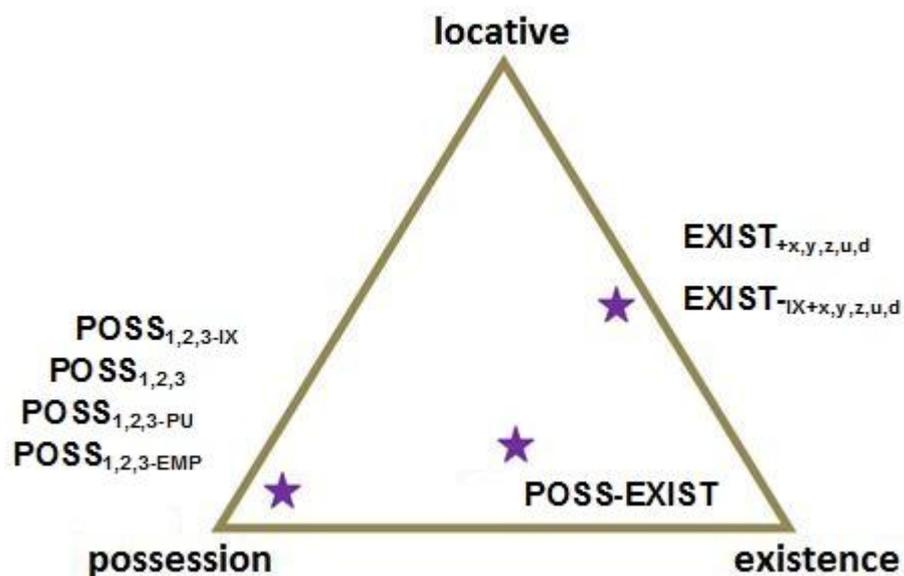

Figure 9.10: The function of possessive and existential forms

9.3   Negative possessives and existentials

As with affirmative possessives and existentials (see Section 9.2.2, above) there is ambiguity in terms of distinguishing negative possessives from negative existentials. There are two very common negative possessives in UgSL: PA and NONE. These have already been discussed in Chapter 8 on negation with respect to their functions as negators, but this section will provide some information on their relevance to possession. In particular, this section considers the results of an investigation into the frequency of PA and NONE in the data (see Section 9.3.3 below). By looking at occurrences of the two forms separately, it can be determined whether PA and NONE exhibit more affiliation to possessive functions, to existential functions, or to neither (i.e. no particular affiliation). Firstly here is a brief reminder of the two different signs.

9.3.1 The sign PA
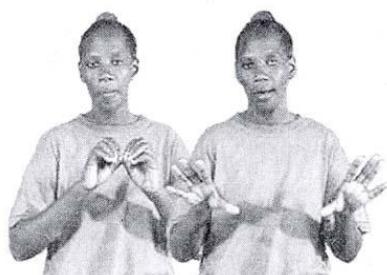
Figure 9.11: The sign PA

(UgSLD picture sign: 1516, Wallin et al. 2006)

PA usually occupies the syntactic slot at the end of the sentence. For example:

(9-40) UNIVERSITY JOB **PA**

'The university is not advertising jobs at the moment.' (Literally: 'The university does not have jobs.')

It can function as a negative possessive or a negative existential.

When it occurs with a verbal possessive such as $POSS_{1\text{-}PU}$ or $POSS_{2\text{-}PU}$, PA clearly functions as a negative possessive.[53]

(9-41) $POSS_{1\text{-}PU}$ CAR **PA**

'I don't have a car.'

In the absence of verbal possessives, attributive possessive structures, and pronominal forms, an existential interpretation is perhaps more suitable. For example:

(9-42) SODA $EXIST_{+z}$ **PA**

'There is no soda'.

(9-43) PLAN **PA**

'There is no plan.'

---

[53] Note that PA cannot appear together with NONE.

9.3.2 The sign NONE1

As mentioned in Chapter 8 on negation, there are two signs glossed NONE; these are distinguished as NONE1 and NONE2. The former is the only one which is associated with possession, and thus will be the only one discussed here.
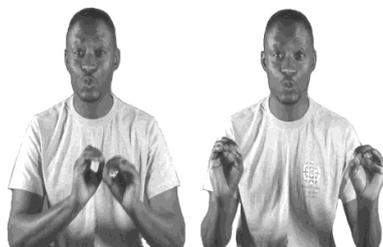
Figure 9.12: The sign NONE1

Like PA, NONE1 can show location, existence, and possession.

In contrast to PA, NONE1 (see Figure 9.12 above) tends to be used more with possessum that are large and active/animate. According to the data, NONE1 is only slightly more frequent than PA (NONE1 occurred 64 times, while PA occurred 53 times). It can be used with both concrete and abstract possessum. The situations described by NONE1 are usually permanent, e.g. CHILDREN NONE1 'I don't have any children (and I never will)'. The implication of NONE1 is that there is no expectation that the situation described in the sentence will change in the future. In contrast to the example COFFEE PA, if COFFEE NONE1 was signed, it would probably prompt enquiry from the addressee because it would signify permanent unavailability, implying that there was a legal, religious or other significant reason (e.g. a dire monetary situation) for not having coffee.

Negation of possession with NONE1 differs from that with PA, because NONE1 can be used to negate more abstract and metaphorical concepts such as time (see examples 9-44 and 9-45) and can function as a negative quantifier.

(9-44) TIME **NONE1**

'I haven't any time'.

(9-45) BANK DEM-$_{IX+y}$ MONEY EXIST$_{+y}$ **NONE1**

'They do not have any money in the bank'.

(9-46) FS:IF DEAF UNAD NONE1 MEANS DEAF ALONE COMMUNICATION
NONE1

'There is no communication.' / 'They have no communication.'

9.3.3 The respective functions of PA and NONE1

In order to investigate the functions of PA and NONE1, nine texts have been examined, totalling 67 minutes of data. These include a mixture of monologues and dialogues. As mentioned above, both PA and NONE1 are negatives, but PA and NONE1 are both known to have more than one specific function. For example, PA can operate as a negative possessive, but also more generally as a negative particle with which to negate clauses (including existential clauses). Thirty-three tokens of PA were found, and 41 tokens of NONE1. These were allocated to different functional categories using the following process. All tokens were viewed, and different interpretations of the function of the sign were considered in turn (possessive, existential, clause negator). A decision was then made based on introspection.

Translating into English sometimes helped with the process, as possession and existence are more clearly delimited in English. In other words, by reflecting on different possible translations (possessive, existential), it was sometimes easier to decide which was the most appropriate. While not infallible, this method proved to be the best way of analysing the data.

(9-47) PROBLEM ONE WOMAN SLEEP2 **NONE1** (PRO$_1$ ALONE)
'The thing is, I don't have a woman to sleep with.'

(Ug_mulesa_makumai.eaf00:00:07-11)

For example, the negative clause in example (9-47) would be interpreted differently, depending on the function of NONE1. Hypothetically, it could be interpreted as (a) there is no woman to sleep with (where NONE1 is an existential); (b) I don't have a woman to sleep with (possessive); or (c) the woman doesn't sleep (clause negator). In this case, translation (b) was favoured as being true to the meaning that was being expressed, and so this token was categorised as a negative possessive. In most cases, the category was clear; for example in the case of DEAF ORGANISATION NONE1 it is more or less

obvious that NONE1 functions as a negative existential. However, it was not always easy to decide whether the negative form had an existential or a possessive function. In order to deal with such cases, where the forms were functionally ambiguous, it was decided to create a new category to reflect this, and the form has been given a combined possessive-existential function.

	FUNCTION			
Type	possessive	existential	possessive-existential	clause negator
PA (n=33)	8 (24%)	1 (3%)	4 (12%)	20 (61%)
NONE1 (n=41)	6 (15%)	23 (56%)	1 (2%)	11 (27%)

Table 9.3: The distribution of functions of PA and NONE1

From the findings presented in Table 9.3, it seems that PA is mostly used as a clause negator; in other cases, PA is slightly more affiliated with possession (24%) than existence (15% for the categories 'existential' and 'possessive-existential'). From the findings for NONE1, it seems that NONE1 is mostly used as a negative existential (this was the case for 56% of tokens); to a lesser extent, it is used to negate clauses (27%) and possession (17%). More research is necessary in order to verify these initial findings, and especially to shed more light on the 'possessive-existential' category. For example, there may be other ways to determine whether 'possessive-existential' tokens incline more towards one than the other.

9.3.4 Other negation strategies for possession and existence

Besides PA and NONE1, other negation strategies can also be used to show negative possession. For example, $POSS_{2-PU}$ can be negated using a headshake occurring simultaneously or slightly after the manual articulation of the possessum that is being negated.

```
                 _____hs
```
(9-48) (PRO$_2$) CAR **POSS$_{2-PU}$**

    'You don't have a car.'

Ways of negating attributive possessives (including pronominal and emphatic possessives) have also been discussed above, in Section 9.1.3.
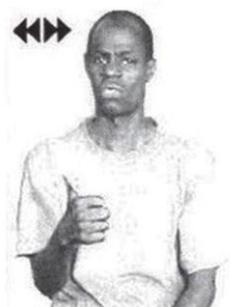
Figure 9.13: The sign BADO

(UgSLD picture sign: 833, Wallin et al. 2006)

Similarly, BADO may also be used as a negative completive in response to a question about existence, or the ownership of a possessum (see Section 8.3.2 for more examples of BADO), where the future existence or possession is anticipated but has not yet transpired. More research is needed into this usage of BADO. As noted in Section 8.3.1, the use of two negative elements is also possible. For example, PA may be used simultaneously with the headshake.

9.4   Spatial displacement of signs

UgSL has at least one other way of expressing possession and location, making use of the spatial affordances of sign language as a visual-gestural modality. Some signs may be displaced in order to indicate possession and/or location. Such displacement is only possible for some signs; for example, displacement is not available for signs that cannot move around the sign space (such as signs that are anchored to a location on the head). An example of displacement is shown in sentence (9-49) below, where WORK is placed at the top of the sign space to indicate location. This phenomenon is rare in the data, and tends to be limited to certain signs such as WORK and STAY; careful elicitation of utterances about different locations may provide more varied data.

(9-49) r: SAY   SN:LIRA **WORK$_{+ux}$**

      l: PRO$_2$ **MOVE$_{+d\text{-}ux}$** EXIST-$_{IX+ux}$----------

      'So, you say you moved to Lira for your job.'   (Uga_lule_akomele.eaf00:10:25-7)

9.5 Conclusion

It seems that the expression of attributive possession in UgSL relies on possessive pronouns, non-manual features, syntactic ordering and placement; however, examples of the latter three type of possession were not plentiful in the data (see Section 9.1.6) and further study is needed in order to determine the relative importance of each feature. Another area of interest that could not be explored fully is the relationship between the height of the possessive/existential form EXIST and its expression of anaphoric and exophoric reference, as well as of concrete versus abstract possessive relationships (see Section 9.2.3.1). The data provided ample evidence that EXIST may be articulated at a variety of heights (to denote various distances), but time limits prevented this phenomenon from being investigated in depth.

10 CONCLUSION

At the end of this thesis, it is appropriate to step back and consider once more the contribution that this research has made to our understanding of UgSL, both in its own right and in the context of sign language linguistics. The thesis has sought to investigate the morphosyntax of UgSL, focusing on five domains where the morphology and syntax of this language reveals the complexity and richness of UgSL as a linguistic system. In addition, the short grammatical sketch in Part II has provided a context for situating these domains within the grammar of UgSL as a whole.

In Section 10.1, I draw some conclusions from the linguistic descriptions contained in the chapters of this thesis. Some recurrent themes that are evidenced in several chapters and sections throughout the thesis are highlighted. Section 10.2 then moves on to a brief discussion of prospects and perspectives for future research in this area, discussing both thematic and methodological issues. Finally, the impact of this research is evaluated in Section 10.3.

10.1 Understanding Ugandan Sign Language

Several themes have repeatedly surfaced in the various chapters of this thesis, either explicitly or implicitly, and when drawing together some broader conclusions, it is appropriate to discuss some of these. In particular, this section discusses the following: a) the fine-grained semantic and grammatical distinctions that can be seen in the structures of UgSL; b) the way in which sequential morphology is instantiated in this language, and what we can say about the historical development of these structures; and c) evidence for the multilingual environment in which UgSL has emerged and is still developing.

10.1.1 Morphosyntactic domains in UgSL

Research for this thesis has revealed a strikingly rich array of linguistic structures in the morphology and syntax of UgSL. As the research progressed, each of the morphosyntactic domains investigated in Part III revealed increasing levels of complexity. The intricacy of these constructions in UgSL is evidenced in the interesting fine-grained semantic and grammatical distinctions found

across several morphosyntactic domains. A few illustrative examples are mentioned below.

UgSL has a substantial number of pronoun series (Chapter 6), each with its own distinct meaning and function, such as the several types of emphatic pronouns. Moreover, each pronominal series has its own grammatical restrictions, such as restrictions on plural formation and person marking. As stated in the conclusion to Chapter 6, the nature of person distinctions in the pronominal paradigms of UgSL requires further research.

There are subtle semantic distinctions between the various quantifiers available in UgSL (Chapter 5), such as the difference between 'few; a little' and 'too few; too little'. Moreover, different quantifiers are compatible with types and classes of signs in different ways, such as MORE having a much wider distribution than other quantifiers, and ALL differing from F-ALL in its combinatorial possibilities. It would be worthwhile to explore grammatical restrictions, conventional collocations, and a semantically based selection of restrictions in much more detail for quantifiers in UgSL.

Finally, the domain of negative modals in UgSL (Chapter 8) has revealed an intricate system of partly overlapping functions. The semantics of negative modals, for instance the various shades of meaning associated with inability ('evidently impossible', 'could not achieve after trying', and the like), are of particular interest. Disentangling related but subtly-different functions has also been one of the themes explored in the chapter on possession and existence (Chapter 9).

Clearly, UgSL is a highly complex linguistic system with a large array of forms and functions. The particular sub-type of linguistic forms, sequential morphology, is highlighted in the next section.

10.1.2 Sequential morphology and grammaticalisation

In a number of chapters and sections across the thesis, sequential morphology in the form of compounding, cliticisation and affixation has featured. Although it is often recognised that sign languages tend to have rich simultaneous morphology, there is much to learn from an in-depth study of sequential

morphology in a sign language. In UgSL, instances of sequential morphology include the following:

- Negative clitics and affixes ^NEG and –NEG (Chapter 8);
- An interrogative suffix WH-$_{SUFFIX}$ occurring with some of the UgSL question signs (Chapter 7);
- Compounds consisting of two or three items, with particularly interesting combinations found in the system of kinship terms (Part II, Section 4.3);
- The suffix ^ish used for attenuation in colour terms (Part II, Section 4.2).

In some of these cases, it has been particularly instructive to think about the development of sequential morphology in terms of grammaticalisation theory. This theory provides an appropriate framework for viewing the historical development from free forms to bound morphology. This approach is increasingly being applied to sign languages (e.g. Pfau & Steinbach 2011), and similar principles seem to be at work in both signed and spoken languages.

10.1.3 UgSL in its multilingual context

An issue that has not been sufficiently recognised in sign language linguistics yet is the emergence and development of sign languages in a multilingual context. This may be because in North America and Western Europe, where sign language linguistics first developed, usually a single spoken/written language provides the context for the sign language. However, it is clear that several signed and spoken languages have had an impact on the development of UgSL, which can be seen in current linguistic data. Mouthing, borrowing, and fingerspelling, which have been discussed in various chapters and sections, are evidence of this multilingual context.

A large number of both mouthings and mouth gestures are used in UgSL, and it can be seen in various sections throughout the thesis that mouthings in UgSL have originated from three different spoken languages: Luganda (e.g. <tono> in quantifiers), English (e.g. <sef> in one of the pronoun series), and Swahili (e.g. <bado> in the sign for 'not yet'). A more detailed investigation into the patterns and possible origins of these mouthings has not been possible in this thesis, but would be very desirable.

The effects of historical contact between UgSL and both ASL and BSL are visible in UgSL at several levels. The current fingerspelling system used in UgSL is borrowed from ASL. However, remnants of the earlier BSL fingerspelling can still be seen in the language, for instance in parts of the kinship system, where the manual letters B (for 'boy') and G (for 'girl') are used in some of the kinship terms. We have also seen evidence of lexical borrowing from ASL, in particular in the paradigms of wh-interrogatives and negative particles. For instance, the signs WHO, WHY, NO and NOT are all borrowed from ASL. It would be interesting to look further into the linguistic characteristics of borrowed versus native lexicon, to see if any generalisations can be made.

10.2 Future research and perspectives

In the previous section, a number of interesting areas for future research on the linguistic structures of UgSL have already been mentioned. In addition, there are several other areas that could not be explored sufficiently in this thesis.

First of all, regional variation in UgSL has not played any major part in this thesis. Although the sign language corpus was representative in terms of incorporating data from several major regions of Uganda, as detailed in Chapter 3, possible linguistic differences between regional variants have not been focused on. Beyond regional variation in UgSL, it is also proposed that future research includes a comparative study of the sign languages of East Africa, particularly Kenyan Sign Language and UgSL, in order to examine the historical influences on each other and illustrate the similarities and differences within their morphosyntax of the two languages.

In the future, several additional methodological developments could be envisaged both with respect to research and presentation of results. Currently, researchers need to undertake considerable extra work to explain and give illustrative examples of their transcription conventions. This time might be available for other more imperative tasks if video clips were used more widely. With multimedia technology improving day by day, it is possible that more and more sign language resources and published research will feature video clips as the medium of choice. For example, sign language books could be accompanied by DVDs or pen drives on which video clips of sign language data are shown alongside the transcriptions. Other possibilities include PDFs with

embedded videos, and e-books with hyper-text links to videos. Linguists and technicians have already begun to explore these possibilities to some extent (for example Dikyuva 2011), and it is hoped that even more academics will start to use these methods in future. It is also intended that the methodological and theoretical approach taken in this study opens up academic discussion regarding the approach and the grammatical judgements made; this would benefit from the insight of fellow academics and members of the Ugandan Deaf community. As mentioned several times the chapters of this thesis, grammaticality judgements were not available as a methodological approach in this research. For example, the question of whether index pointing with the palm facing up could be used for third person reference in UgSL or is ungrammatical (see Chapter 6) could not be resolved at this stage.

This research has taken the innovative step of looking at the grammar of UgSL at a macro level in order to bring to light essential linguistic features and grammatical workings of the language. This is, however, just an initial step towards a full and comprehensive understanding of this language and therefore provides a limited level of analysis. It is now pertinent that further research contributes additional analysis. In particular, it would be highly desirable to develop a comprehensive reference grammar of UgSL. In this study, I refer only briefly to phonology and discourse due to the limited space and time that this thesis allowed, and the lack of research that has been conducted thus far in these areas has been highlighted. Future research, in the form of a reference grammar, would ideally include investigation in all linguistic areas. There is much potential in future to use such a reference grammar as a basis for more linguistically-informed teaching materials.

10.3 The impact of research on UgSL

Attitudes towards UgSL are steadily changing from the negative and paternalistic attitudes of the past to an increasing acceptance of Deaf people as sign language users in Uganda society. Along this journey, it is very important to report back to informants on the findings, so that they are able to learn about the outcomes of the research. Zeshan notes that 'increasingly, researchers are supposed to make their research results accessible to the communities they are studying…this is a good way of 'giving back to the community' as well as a good

way of educating the target community about the research being done and its significance for others and themselves' (Zeshan 2007:272).

This research clearly established the importance of the involvement of the community of language users, i.e. Deaf people, in every aspect of its analysis, and dissemination of results to the same community will be essential to secure the impact of the research. There are two issues to resolve here, one relating to accessibility for Deaf people, and another relating to different levels of interest and expertise. For example, it might not be useful to translate the whole thesis into UgSL, at least initially, as this would result in many hours of material. The findings will need to be introduced in ways that are appropriate for different audiences, with added explanations and extra information as necessary. Another option would be to visit each region and give a presentation to informants, and other interested parties, in order to report on the main findings, and assess the level of interest. Further plans could then be created on the basis of this assessment, in conjunction with colleagues in the academic community at Kyambogo University.

The current research has many significant benefits for the Ugandan Deaf community, including the impact on the status and profile of UgSL. Since 1995, when the Ugandan government formally recognised UgSL and included sign language in the Constitution, there has been a pressing need and a growing demand for more linguistic information about Ugandan Sign Language. The publication of the Ugandan Sign Language Dictionary has been a useful resource for details about the lexicon, but to date there has been no comprehensive information about the morphosyntax of UgSL and it is hoped that this study will now shed at least some light on the grammatical processes involved. It is also hoped that this survey of UgSL will also raise the status of the language in the eyes of Deaf people. The publication of the UgSL Dictionary in 2006 had a big impact on the Ugandan Deaf community. Informants were proud to have participated in the research that preceded the publication of the dictionary, and the status of UgSL was raised in their eyes due to the existence of a dictionary that was comparable to spoken language dictionaries. It is hoped that informants will be similarly pleased to have been involved in the compilation of this survey. It is also expected that the survey will have a significant impact on the perceptions of hearing people, as they will be able to use it to gain a

fuller understanding of UgSL, and appreciate more deeply that UgSL is a fully-fledged language.

Furthermore, since 1988, Kyambogo University has taught courses for teachers, and since 2002 there have been courses for interpreters and for others who are interested in learning UgSL (for more information, see Wallin et al. 2006). The findings presented in this thesis will enable these courses to be developed further, with a stronger foundation in linguistics. The prospective publication of a survey of UgSL also has symbolic importance. It will become the first substantial survey of an African sign language. As well as inspiring Deaf and hearing linguists in other African countries, and further afield, it is hoped that the survey will have symbolic value for the Ugandan Deaf community, as community members will be able to refer to UgSL-specific literature, rather than relying on literature relating to ASL and other more documented sign languages.

Lastly, it is important to conclude that the findings of this thesis are potentially helpful in typological contexts, because now sign language typologists can cross-linguistically compare morphosyntactic aspects of UgSL (e.g. its negation system) to those of other sign languages. Also, on a more local scale, researchers of nearby sign languages, e.g. Tanzanian Sign Language and Kenyan Sign Language, can compare their structures to those of UgSL and this may aid them in delineating and understanding the distinct morphosyntax of their own languages. It is hoped that this study has revealed much about the grammatical workings of UgSL and has contributed to the protection and future preservation of the language via this documentation process.

BIBLIOGRAPHY

Aarons, D. Bahan, B., Kegl, J. & Neidle, C. (1992). 'Clause Structure and a tier for grammatical marking in American Sign Language'. *Nordic Journal of Linguistics* 15, pp. 103–142.

Ahlgren, I. (1990). 'Deictic Pronouns in Swedish and Swedish Sign Language'. In: Fischer, D. S. & Siple, P. (eds.), *Theoretical issues in Sign Language Research* 1. Chicago and London: The University of Chicago Press, pp. 167–174.

Aikhenvald, A. Y. (2003a). *Classifiers: A Typology of Noun Categorization Devices*. Oxford: Oxford University Press.

Aikhenvald, A. Y. (2003b). 'Classifiers in Spoken and in Signed Languages: How to Know More'. In: Emmorey, K. (ed.), *Perspectives on Classifier Constructions in Sign Language*. Mahwah, New Jersey/London: Lawrence Erlbaum Associates, Publishers, pp. 87–90.

Akach, P. (1991). *Kenyan Sign Language Dictionary.* Nairobi: Kenyan National Association of the Deaf.

Alibašić Ciciliani, T. & Wilbur, R. B. (2006). 'Pronominal system in Croatian Sign Language.*Sign Language and Linguistics* 9, pp. 95–132.

Antzakas, K. (2006). 'The use of negative head movements in Greek Sign Language'. In: Zeshan, U. (ed.), *Interrogative and Negative Constructions in Sign Languages*. Nijmegen: Ishara Press, pp. 258–269.

Austin, P.K. (1981). *A Grammar of Diyari, South Australia*. Cambridge: Cambridge University Press.

Bahan, B. (1996). *Non Manual Realization of Agreement in American Sign Language*. PhD Dissertation, Boston University.

Bahan, B., Kegl, J., Lee, R., MacLaughlin, D. & Neidle, C. (2000).The Licensing of null argument in American Sign Language. *Linguistic Inquiry* 31, pp. 1–27.

Baker, C. & Padden, C.A. (1978). 'Focusing on the nonmanual components of American Sign Language'. In: P. Siple (ed.),*Understanding language through

Sign Language Research. Perspectives in Neurolinguistics and Psycholinguistics. New York: Academic Press, pp. 27-58.

Baker-Shenk, C. & Cokely, D. (1991). *American Sign Language: A Teacher's Resource Text on Grammar and Culture.* Washington DC: Gallaudet University Press.

Baron, I., Herslund, M. & Sørensen, F. (2001). *Dimensions of Possession.* Amsterdam: John Benjamins.

Bayley, R., Lucas, C. & Rose, M. (2002). Phonological variation in American Sign Language: The case of 1 handshape. *Language Variation and Change* 14(1), pp. 19-53.

Berenz, N. (2002). 'Insights into person deixis'. *Sign Language and Linguistics* 5 (2), pp. 203–227.

Bhat, D.N.S. (2000). 'The Indefinite-Interrogative Puzzle'. *Linguistic Typology* 4(3), pp. 365–400.

Bhat, D.N.S. (2004). *Pronouns.* Oxford: Oxford University Press.

BNC (2010). British National Corpus website, www.natcorp.ox.ac.uk/, [accessed 4 October 2011].

Booij, G. (2007). *The Grammar of Words: An Introduction to linguistic morphology,* 2nd edition. Oxford: Oxford University Press.

Boyes Braem, P. & Sutton-Spence, R., eds. (2001). *The Hands are the Head of the Mouth: The Mouth as Articulator in Sign Languages.* Hamburg: Signum.

Brentari, D. (2010). *Sign Languages.* Cambridge: Cambridge University Press.

Brenzinger, M. & Batibo, H. (2010). 'Sub-Saharan Africa'. In: Moseley, C. (ed.) *UNESCO Atlas of the World's Languages in Danger.* Third edition. Paris: Unesco Publishing. pp. 20-25

Brito, L. F. (1990). 'Epistemic, Alethic, and Deontic Modalities in a Brazilian Sign Language'. In: Fischer, D. S. & Siple, P. (eds.), *Theoretical Issues in Sign*

Language Research 1. Chicago and London: The University of Chicago Press, pp. 229–260.

Bybee, J., & Fleischman, S. (1995). *Modality in Grammar and Discourse*. Typological Studies in Language series 32. Amsterdam: John Benjamins Publishing Company.

Campr, P., Hruz, M. & Trojanova, J. (2008). 'Collection and Preprocessing of Czech Sign Language Corpus for Sign Language Recognition'. *Proceedings of the Sixth International Conference on Language Resources and Evaluation (LREC'08).*

Childs, G.T. (2003). *An Introduction to African Languages*. Amsterdam: John Benjamins.

Clark, E. (1978). 'Locationals: Existential, Locative, and Possessive Constructions'. In Greenberg, J. (ed.), *Universals of Human Language*, Vol. 4. Stanford: Stanford University Press.

Coerts, J.A. (1992). *Nonmanual grammatical markers; an analysis of interrogatives, negations and topicalisations in Sign language of the Netherlands*. PhD dissertation, University of Amsterdam.

Coates, J. (1995). 'The Expression of Root and Epistemic Possibility in English'. In: Bybee, J. & Fleischman, S. (eds.), *Modality in Grammar and Discourse*. Amsterdam: John Benjamins Publishing Company, pp. 55–66.

Comrie, B. (1976). *Aspect: An Introduction to the Study of Verbal Aspect and Related Problems*. Cambridge: Cambridge University Press.

Comrie, B. (2005a). Endangered numeral systems. In: Jan Wohlgemuth & Tyko Dirksmeyer (eds.): *Bedrohte Vielfalt: Aspekte des Sprach(en)tods* [*Endangered Diversity: Aspects of Language Death*]. Berlin: Weißensee Verlag, pp. 203–230.

Comrie, B. (2005b). Numeral Bases. In: Haspelmath, Martin, Matthew S. Dryer, David Gil & Bernard Comrie (eds.), *The World Atlas of Language Structures*. Oxford: Oxford University Press*.*

Corbett, G. (2000). *Number*. Cambridge: Cambridge University Press.

Cormier, K. (2007). Do all pronouns point? Indexicality of first person plural pronouns in BSL and ASL. In Perniss, P., Pfau, R. & Steinbach, M. (eds.) *Visible Variation: Comparative Studies on Sign Language Structure.* Berlin: Walter de Gruyter. pp. 63-101.

Cormier, K., Schembri, A., & Woll, B. (2013). Pronouns and pointing in sign languages.

Craig. C. (1986). 'Jacaltec noun classifiers: A study in language and culture'. In: Craig, C. (ed.), *Noun classes and categorization.* Amsterdam: John Benjamins, pp. 263–293.

Crasborn, O. & Sloetjes, H. (2008). 'Enhanced ELAN functionality for sign language corpora'. In: Crasborn, Hanke, Efthimiou, Zwitserlood & Thoutenhoofd (eds),*Construction and Exploitation of Sign Language Corpora. 3rd Workshop on the Representation and Processing of Sign Languages*, Paris: ELDA, pp. 39–43.

Creissels, D., Dimmendaal, G. J., Frajzyngier, Z. & König, C. (2008). 'Africa as Morphosyntactic Area'. In: Heine, B. & Nurse, D. (eds.), *A Linguistic Geography of Africa.* Cambridge: Cambridge University Press, pp. 86–150.

Creissels, D. (2000). 'Typology'. In: Heine, B. & Nurse, D. (eds.), *African Languages: An introduction*. Cambridge: Cambridge University Press, pp. 231–258.

Croft, W. (1990).*Typology and Universals*. Cambridge: Cambridge University Press.

Croft, W.A. (2000). Parts of speech as typological universals and as language particular categories. In: Vogel, P. & Comrie, B. (eds.), *Approaches to the Typology of Word Classes*. Berlin: Mouton de Gruyter, pp. 65-102.

Croft, W.A. (2001) *Radical Construction Grammar: Syntactic theory in typological perspective.* Oxford: Oxford University Press.

de Clerck, G. (2010). Deaf epistemologies as a critique and alternative to the practice of science. An anthropological perspective. American Annals of the Deaf, 154(5), 435–446.

de Quadros, R.M. (2006). 'Questions in Brazilian Sign Language (LSB)'. In: Zeshan, U. (ed.), *Interrogative and Negative Constructions in Sign Languages* (Sign Language Typology Series 1). Nijmegen: Ishara Press, pp. 270–283.

de Quadros, R.M. (2010). 'Clause Structure'. In: Brentari, D. (ed.), *Sign Languages*. Cambridge: Cambridge University Press, pp. 225–251.

de Vos, C. (2012). *Sign-Spatiality in Kata Kolok: How a village sign language of Bali inscribes its signing space*. PhD thesis, Radboud University Nijmegen, Nijmegen.

Dellarosa, D. (1988). 'A History of Thinking'. In: Steinberg, R.J. & Smith, E.E. (eds.), *The Psychology of Human Thought*. New York: Cambridge University Press, pp. 1–18.

Dikyuva, H. (2011). *Aspectual Non-Manual Expressions in Turkish Sign Language (TİD).* MA thesis, University of Central Lancashire.

Dixon, R.M.W. & Aikhenvald, A. Y. (2002). *Word: A Cross-Linguistic Typology*. Cambridge: Cambridge University Press.

Dixon, R.M.W. (2010). *Basic Linguistic Theory.* Oxford: Oxford University Press.

Dryer, M.S. (1997). On the six-way word order typology. *Studies in Language* 21(2), pp. 69-103.

Dryer, M.S. (2005a). 'Coding of Nominal Plurality'. In: Haspelmath, M., Dryer, S.M., Gil, D. & Comrie, B. (eds.), *The World Atlas of Language Structures*. Oxford: Oxford University Press, pp. 138–141.

Dryer, M.S. (2005b). 'Negative Morphemes'. In: Haspelmath, M., Dryer, M.S., Gil, D. & Comrie, B. (eds.), *The World Atlas of Language Structures*. Oxford: Oxford University Press, pp. 454–457.

Dryer, M.S. (2005c). 'Order of Degree Word and Adjective'. In: Haspelmath, M., Dryer, M.S., Gil, D. & Comrie, B. (eds.), *The World Atlas of Language Structures*. Oxford: Oxford University Press, pp. 370–373.

Dufour, R. (1997). 'Sign Language and Bilingualism Modality Language Representation', In: de Groot, A.M.B. & Kroll, J.F. (eds.), *Tutorials in Bilingualism*. New Jersey: Lawrence Erlbaum Associates, pp. 301–330.

Emmorey, K. (2003). *Perspectives on Classifier Constructions in Sign Languages*. New Jersey/London: Lawrence Erlbaum Associates.

Engberg-Pedersen, E. (1993). *Space in Danish Sign Language: The semantics and morphosyntax of the use of space in a visual language.* Hamburg: Signum Press.

Engberg-Pedersen, E. (2003). 'How Composite Is a Fall? Adults' and Children' Descriptions of Different Types of Falls in Danish Sign Language'. In: Emmorey, K. (ed.), *Perspectives on Classifier Constructions in Sign Languages*. New Jersey/London: Lawrence Erlbaum Associates, pp. 311–332.

Fenlon, J. & Cormier, K. (2006). 'Inalienable Possession in British Sign Language' – presented at the *9th Theoretical Issues in Sign Language Research Conference*, Florianopolis, Brazil, December 6-9. Deafness, Cognition and Language Research Centre, University College London.

Fenlon, J., Schembri, A., Rentelis, R. & Cormier, K. (2013) Variation in handshape and orientation in British Sign Language: The case of the '1' hand configuration. *Language & Communication* 33(1): 69-91.

Fillmore, C.J. (2004). Circumstance concepts. In: Booij, G., Lehmann, C. & Mugdan, J. (eds.), *Morphology: An international handbook.* Berlin and New York: Walter de Gruyter, pp. 1117–1129.

Fischer, S. (1975). 'Influences on word order change in American Sign Language'.In: Li, C. (ed.), *Word order and word order change*. Austin, TX: University of Texas Press, pp. 1–25.

Fischer, S. & Lillo-Martin, D. (1990). 'Understanding Conjunctions'. *International Journal of Sign Linguistics* 1(2). Multilingual Matters, pp. 71–80.

Fischer, S. D. (2006). 'Questions and Negation in American Sign Language'. In Zeshan, U. (ed.), *Interrogative and Negative Constructions in Sign Languages*. Nijmegen: Ishara Press, pp. 165-197.

Gil, D. (2000). 'Syntactic categories, cross-linguistic variation and universal grammar'. In: Vogel, P. M. & Comrie, B. (eds.),*Approaches to the Typology of Word Classes.* Berlin: Mouton de Gruyter, pp. 173–216.

Gil, D. (2001). 'Quantifiers'. In: Haspelmath, M., König, E., Oesterreicher, W. & Raible, W. (eds.), *Language Typology and Linguistic Universals, an International Handbook 2*. Berlin: Walter de Gruyter, pp. 1275–1294.

Gil, D. (2005a). 'Numeral Classifiers'. In: Haspelmath, M., Dryer, S.M., Gil, D. & Comrie, B. (eds.), *The World Atlas of Language Structures*. Oxford: Oxford University Press, pp. 226–229.

Gil, D. (2005b). 'From Repetition to Reduplication in Riau Indonesian' In: Hurch, B. (ed.), *Studies on Reduplication*. Empirical Approach to Language Typology. Berlin: Mouton de Gruyter, pp. 31–64.

Gil, D. (2012). Where does predication come from? *The Canadian Journal of Linguistics* 57(2): 303-333.

Goldin-Meadow, S. (2003). *The Resilience of Language*. New York: Psychology Press.

Greenberg, J. H. (1963). *The Languages of Africa.* Bloomington, IN: Indiana University.

Grinevald, C. (2000). 'A morphosyntactic typology of classifiers'. In: Senft, G. (ed.), *Systems of Nominal Classification*. Cambridge: Cambridge University Press, pp. 50–92.

Grinevald, C. (2003). 'Classifier Systems in the Context of a Typology of Nominal Classification.' In: Emmorey, K. (ed.), *Perspectives on Classifier Constructions in Sign Languages*. New Jersey: Lawrence Erlbaum Associates, pp. 91-110.

Grosjean, F. (1997). 'Processing Mixed Language: Issues, Findings, and Models.' In: de Groot, A. M. B. & Kroll, J. F. (eds.), *Tutorials in Bilingualism*. New Jersey: Lawrence Erlbaum Associates, pp. 225-254.

Haegeman, L. (1995). *The Syntax of Negation*. Cambridge: Cambridge University Press.

Haegeman, L. & Guéron, J. (1999). *English Grammar: A Generative Perspective.* Oxford: Blackwell Publishing.

Harris, R., Holmes, H.M. & Mertens, D. (2009). 'Research Ethics in Sign Language Communities'. *Sign Language Studies* 9(2), pp. 104–131.

Haspelmath, M. (1997). *Indefinite Pronouns.* Oxford: Clarendon Press.

Haspelmath, M., Dryer, M.S., Gil, D. & Comrie, B. (2005). *The World Atlas of Language Structures.* Oxford: Oxford University Press.

Haualand, H. & Allen, C. (2009). *Deaf People and Human Rights.* Helsinki: World Federation of the Deaf and Swedish National Association of the Deaf.

Heine, B. (1997). *Possession: Cognitive Forces, Sources, and Grammaticalisation.* Cambridge: Cambridge University Press.

Heine, B. & Kuteva, T. (2002). *World Lexicon of Grammaticalization.* Cambridge. Cambridge University Press.

Helmbrecht, J. (2005). 'Politeness Distinctions in Pronouns'. In: Haspelmath, M., Dryer, S.M., Gil, D. & Comrie, B. (eds.), *The World Atlas of Language Structures.* Oxford: Oxford University Press, pp.186–189.

Hendriks, B. (2008). *Jordanian Sign Language: Aspects of Grammar from a Cross-Linguistics Perspective.* PhD Thesis, University of Amsterdam. Utrech: LOT.

Herrmann, A.& Steinbach, M. (2011). 'Nonmanuals in Sign Languages.' *Sign Language & Linguistics* 14 (1), pp. 3–8.

Herslund, M. & Baron, I. (2001). 'Introduction: Dimensions of Possession'. In: Baron, I., Herslund, M. & Sorensen, F. (eds.), *Dimensions of Possession.* Amsterdam/Philadelphia: John Benjamins, pp. 1–26.

Horn, L.R. (2001). *A Natural History of Negation.* Stanford/ California: CSLI Publications.

Horn, L.R. & Kato, Y. (2000). *Negation and Polarity: Syntactic and Semantic Perspectives.* Oxford/New York: Oxford University Press.

Hopper, P.J. & Traugott, E.C. (1993). *Grammaticalization.* Cambridge: Cambridge University Press.

Hunger, B. (2006). 'Noun/Verb Pairs in Austrian Sign Language (ÖGS)'. *Sign Language & Linguistics* 9(1-2), pp. 71–94.

Hurch, B. (2005). *Studies on Reduplication* (Empirical Approach to Language Typology). Berlin: Mouton de Gruyter.

Hurford, J. R. (1987). *Language and Number: The Emergence of a Cognitive System.* Oxford: Basil Blackwell.

Janis, W.D. (1995). A crosslinguistic perspective on ASL verb agreement. In: Emmorey, K. & Reilly, J. (eds.), *Language, Gesture and Space.* Mahwah, NJ: Lawrence Erlbaum Associates, pp. 195–223.

Johnston, T. (2001). 'Nouns and Verbs in Australian Sign Language: An Open and Shut Case?' *Journal of Deaf Studies and Deaf Education* 6 (4): 235-257.

Johnston, T. (2009a). 'The Auslan Archive Consists of Movies and Background Information about the People in the Movies (Metadata)', www.auslan.org.au/about/archive/, [Accessed 3 October 2011].

Johnston, T. (2009b). 'The Auslan Corpus Annotation Files', www.auslan.org.au/about/annotations/, [Accessed 3 October 2011].

Johnston, T. & Schembri, A. (1999). 'On Defining Lexeme in a Signed Language'. *Sign Language and Linguistics,* 2(2), pp. 115–185.

Johnston, T. & Schembri, A. (2007). *Australian Sign Language (Auslan): An introduction **to** sign language linguistics.* Cambridge: Cambridge University Press.

Johnston, T., Vermeerbergen, M., Schembri, A. & Leeson, L. (2007). '"Real Data are Messy": Considering Cross-Linguistic Analysis of Constituent Ordering in Auslan, VGT, and ISL'. In: Perniss, M.P., Pfau, R. & Steinbach, M. (eds.), *Visible Variation: Comparative Studies on Sign Language Structure.* Berlin/New York: Mouton de Gruyter, pp. 163–205.

Kamei, N. (2006). *The Birth of Langue des Signes Franco-Africaine: Creole ASL in West and Central French-speaking Africa*, Paper presented at Languages and Education in Africa (LEA), University of Oslo, June 19–22.

Kertész, A. & Rákosi, C. (2008). *New Approaches to Linguistic Evidence*. Frankfurt: Peter Lang.

Kimmelman, V. (2012). 'Word Order in Russian Sign Language'. *Sign Language Studies* 12(3), pp. 414–445.

Kiingi, K.B. (2007). *Enkuluze y'Oluganda ey'e Makerere*. Kampala: Fountain Publishers.

Kiingi, K.B. (2013a). 'A Classification of Language Signs'.*Luganda Scientific*, www.luganda.com/Updates [access on 12th April 2013].

Kiingi, K.B. (2013b). 'Predicate Grammar without Nouns & Verbs'.*Luganda Scientific*, www.luganda.com/Updates [access on 15th April 2013].

Kiyaga, N. & Moores, D. (2003). 'Deafness in Sub-Saharan Africa'. *American Annals of the Deaf* 148(1), pp. 18–24.

Krarup, L. (1998). 'Shared Growth'. In: Krarup, M. (ed.),*Memories and Vision.* Glumso Bogtrykkeri, Denmark: Danish Deaf Association and Uganda National Association of the Deaf.

Kyle, J.G. & Woll, B. (1988). 'Sign Morphology and Syntax: The Grammar of BSL'. In: Kyle, J.G. & Woll, B. (eds.), *Sign Language: The Study of Deaf People and their Language.* Cambridge: Cambridge University Press, pp. 131–161.

Langacker, R. W. (1991). *Foundations of Cognitive Grammar: Descriptive Application* 2. California: Stanford University Press.

Le Guen, O. (2012). An exploration in the domain of time: from Yucatec Maya time gestures to Yucatec Maya Sign Language time signs. In Zeshan, U. & de Vos, C. (eds.), *Endangered Sign Languages in Village Communities: Anthropological and Linguistic Insights*. Berlin: Mouton de Gruyter & Nijmegen: Ishara Press, pp. 209-250.

Levinson, S.C. (2003). *Space in Language and Cognition: Explorations in Cognitive Diversity.* Cambridge: CUP.

Liddell, S.K. (1980). *American Sign Language Syntax*. The Hague: Mouton de Gruyter.

Liddell, S. K., & Johnston, R. E. (1987). 'An Analysis of Spatial-Locative Predicates in American Sign Language'. Paper presented at the *Fourth International Symposium on Sign Language Research*, July, Lappeenranta, Finland.

Liddell, S. & Johnson, R.E. (1986): American Sign Language compound formation processes, lexicalization, and phonological remnants. *Natural Language & Linguistic Theory* 4:4, pp. 445-513.

Liddell, S. & Johnson, R.E. (1989). 'American Sign Language: The phonological base'. *Sign Language Studies* 64, pp. 197–277.

Liddell, S. (2000). 'Indicating verbs and pronouns: Pointing Away from agreement'. In: Emmorey, K. & Lane, H. (eds.), *The Signs of Language Revisited: An Anthology to Honour Ursula Bellugi and Edward Klima*. Mahwah, NJ: Lawrence Erlbaum Associates, pp. 303–320.

Liddell, S.K. (2003). *Grammar, Gesture, and Meaning in American Sign Language*. Cambridge: Cambridge University Press.

Lillo-Martin, D. (1986). 'Two kinds of null arguments in American Sign Language'. *Natural language and Linguistic Theory* 4, pp. 415–444.

Lillo-Martin, D. & Klima, E.S. (1990). 'Pointing Out Differences: ASL Pronouns in Syntactic Theory.' In: Fischer, D. S.& Siple, P. (eds.), *Theoretical Issues in Sign Language Research* 1. Chicago and London: The University of Chicago Press, pp. 191–210.

Litosseliti, L. (2010). *Research Methods in Linguistics*. London: Continuum.

Lule, D. & Wallin, L. (2010). 'Transmission of sign language in Africa'. In: Brentari, D. (ed.), *Sign Languages*. Cambridge: Cambridge University Press, pp. 113–130.

Lutalo-Kiingi, S. (2007). *The Expression of Possession in Ugandan Sign Language.* Graduate Diploma in Deaf Studies (Grad. Dip): University of Central Lancashire.

Lutalo-Kiingi, S. (2008). 'Possessive Forms and Structures in Ugandan Sign Language,' In: Zeshan, U. & Perniss, P. (eds.), *Possessive and Existential Constructions in Sign Languages.* Nijmegen: Ishara Press, pp. 105–123.

Lutalo-Kiingi, S., & De Clerck, G. (in press a). Documentation of African sign languages and deaf communities. In Proceedings of the Seventh World Congress of African Linguistics (WOCAL-7).

Lutalo-Kiingi, S. & De Clerck, G. (in press b). Promoting Deaf Citizenship in Sub- Saharan Africa. Partnership between Deaf Communities, Academia, and NGOs in Deaf Empowement. In: A.C. Cooper & K.K. Rashid (Eds.): Signed Languages in Sub-Saharan Africa: Politics, Citizenship and Shared Experiences of Difference. Washington DC: Gallaudet University Press.

Lyons, J. (1977). *Semantics.* Cambridge: Cambridge University Press.

MacSweeney, M., Woll, B., Campbell, R., McGuire, P. K. & David, A. S. (2002). 'Neural System Underlying British Sign Language and Audio-Visual English Processing in Native Users'. *Brain* 125(7), pp. 1583–1593.

Marsaja, I G. (2008). *Desa Kolok – A deaf village and its sign language in Bali, Indonesia.* Nijmegen: Ishara Press.

McBurney, S. (2002). 'Pronominal reference in signed and spoken language: Are grammatical categories modality-dependent?'. In: Meier, R., Cormier, K. & Quinto-Pozos, D. (eds.), *Modality and Structure in Signed and Spoken Languages.* Cambridge: Cambridge University Press, pp. 329–369.

McEnery, T. & Wilson, A. (2001). *Corpus Linguistics*, 2nd ed. Edinburgh: Edinburgh University Press.

McKee, R. (2006). 'Aspects of interrogatives and negation in New Zealand Sign Language'. In: Zeshan, U. (ed.), *Interrogative and Negative Constructions in Sign Languages.* Nijmegen: Ishara Press, pp. 70–90.

McKee, R.L. & Wallingford, S. (2011).'So, well, whatever': Discourse functions of palm-up in New Zealand Sign Language. *Sign Language & Linguistics* 14 (2), pp. 213–247.

Meir, I. (2002). 'A Cross-Modality Perspective on Verb Agreement'. *Natural Language & Linguistic Theory* 20:2 , pp. 413-450.

Meir, I. (2003). 'Grammaticalization and Modality: The Emergence of a Case-Marked Pronoun in Israeli Sign Language'. *Journal of Linguistics* 39, pp. 109–140.

Meir, I. (2004). 'Question and Negation in Israeli Sign Language'.*Sign Language and Linguistics* 7(2), pp. 97–124.

Meir, I. (2004). 'Question and Negation in Israeli Sign Language'. *Sign Language & Linguistics*, Volume 7, Number 2, pp. 97-124.

Meir, I. (2012). 'Word classes and word formation'. In: Pfau, R., Steinbach, M.& Woll, B. (eds.), *Sign Language: An International Handbook*. Berlin: De Gruyter Mouton, pp. 77–111.

Meir, I. & Sandler, W. (2008). *A Language in Space: The Story of Israeli Sign Language.* New York: Lawrence Erlbaum Associates.

Meier, R. P. (1990). 'Person Deixis in American Sign Language'. In: Fischer, D. S. & Siple, P. (eds.), *Theoretical issues in Sign Language Research* 1. Chicago and London: The University of Chicago Press, pp. 175–190.

Miles, M. (2004). 'Locating Deaf People, Gesture and Sign in African Histories, 1450s-1950s'. *Disability & Society* 19(5), pp. 531–545.

Miles, M. (2005). 'Deaf People Living and Communicating in African Histories, c. 960s-1960s', http://www.independentliving.org/docs7/miles2005a.html#13, [Accessed 15 October 2011].

Ministry of Gender, Labour and Social Development (2006). *National Policy on Disability in Uganda*. Kampala.

Miti, M.L. (2011). 'Zimbabwean Sign Language Dictionary'. *OSISA,*www.osisa.org/books/zimbabwe/introduction [Accessed on 4th May 2011].

Mohamed, A.M. (2001). *Modern Swahili Grammar.* Nairobi: East African Publishers.

Monaghan, L., Schmaling, C., Nakamura, K. and Turner, G.H. (2003). *Many Ways to Be Deaf: International variation in Deaf communities*. Washington, DC: Gallaudet University Press.

Morgan, M. (2006). 'Interrogatives and Negatives in Japanese Sign Language'. In: Zeshan, U. (ed.), *Interrogative and Negative Constructions in Sign Languages*. Nijmegen: Ishara Press, pp. 91-127.

Morris, D. (1994). *Bodytalk: The meaning of human gestures.* New York: Crown Publishers.

Munro, P. (2001). 'Field Linguistics'. In: Aronoff, M. &Rees-Miller, J. (eds.), *The Handbook of Linguistics.* Oxford: Blackwell Publishers.

Murangira, A. (2009). 'Join Us to Welcome WFD Board'. *UNAD Newsletter* 22 (1).

Muzale, H.R.T, ed. (2004). *Kamusi ya Lugha ya Alama ya Tanzania (LAT) / Tanzanian Sign Language (TSL) Dictionary*. LOT Publications: Lexicon Series.

Narrog, H.& Heine, B. (2011). *The Oxford Handbook of Grammaticalization*. Oxford/New York: Oxford University Press - USA the world's largest University Press.

Nilsson, Anna-Lena. (2004). 'Form and discourse function of the pointing toward the chest in Swedish Sign Language'. *Sign Language & Linguistics* 7, pp.3-30.

Nkwangu, R. (2006).'Uganda Commemorates the International Deaf Awareness Week for First Time'. *Deaf News* 17(3).

Nyst, V. (1999).*Variation in Handshape in Ugandan Sign Language.*MA thesis, Leiden: Universiteit Leiden, Afrikaans Taalkunde.

Nyst, V. (2007).*A Descriptive Analysis of Adamorobe Sign Language (Ghana).* PhD Thesis, Utrecht: Landelijke Onderzoekschool Taalwelenschap (LOT).

Nyst, V. & Baker, A. (2003). 'The Phonology of Name Signs: A comparison between the Sign Languages of Uganda, Mali, Adamorobe and the Netherlands'. In: Baker, A., Bogaerde, D. & Crasborn, O. (eds.), *selected paper from TISLR 2000.*Hamburg: Signum, pp. 71–79.

Nyst, V.A.S., Moustapha, M.M. & Sylla, K. (2012). Deaf signers in the Dogon, a rural area in Mali. *Sign Languages in Village Communities: Anthropological and linguistic insights.* Berlin: De Gruyter Mouton.

Padden, C. (1988). *Interaction of Morphology and Syntax in American Sign Language.* New York: Garland Publishing.

Palmer, F. R. (1995). 'Negation and the Modals of Possibility and Necessity'. In: Bybee, J.& Fleischman, S. (eds.), *Modality in Grammar and Discourse*(Typological Studies in Language series 32). Amsterdam: John Benjamins Publishing Company, pp. 453–472.

Payne, D. L. & Barshi, I. (1999). *External Possession.* Amsterdam/Philadelphia: John Benjamins.

Penn, C., ed. (1992-1994). *Dictionary of Southern African Signs for Communicating with the Deaf. 1-5.* Pretoria, South Africa: Human Sciences Research Council.

Pereiro, C.C. & Soneira, A.F. (2004). 'The expression of time in Spanish Sign Language (LSE)'.*Sign Language & Linguistics* 7(1), pp. 63–82.

Perniss, P., Pfau, R. & Steinbach, M. (2007). *Visible Variation: Comparative Studies on Sign Language Structure.* Berlin: Mouton de Gruyter.

Peters, S. & Westerståhl, D. (2006). *Quantifiers in Language and Logic.* Oxford: Oxford University Press.

Petitto, L. A. (1987). 'On the autonomy of language and gesture: Evidence from the acquisition of personal pronouns in American Sign Language'. *Cognition* 27, pp. 1–52.

Petronio, K. & Lillo-Martin, D. (1997). 'Wh-Movement and the position of spec CP: Evidence from American Sign Language'. *Language* 73, pp. 18–57.

Pfau, R. & Quer, J. (2010). 'Nonmanuals: their grammatical and prosodic roles'. In: Brentari, D. (ed.),*Sign Languages*. Cambridge: Cambridge University Press, pp. 381–402.

Pfau, R. & Steinbach, M. (2011).'Grammaticalization in Sign Languages'. In: Narrog, H. & Heine, B. (eds.). *The Oxford Handbook of Grammaticalization*. Oxford or New York: OUP - USA the world's largest University Press, pp. 681-693.

Pfau, R., Steinbach, M.& Woll, B. (2012). *Sign Language: An International Handbook*. Berlin: de Gruyter Mouton.

Pullen, G. (2001). 'Deaf Development Programme in Uganda'. In: Callaway, A. (ed.), *Deafness and Development: Learning from Project with Deaf Children and Deaf Adults in Developing Countries*. Bristol: University of Bristol Print Services, pp. 15–21.

Quer, J. (2012). 'Negation'. In: Pfau, R., Steinback, M. & Woll, B. (eds.),*Sign Language: An International Handbook*. Berlin: De Gruyter Mouton, pp. 316–339.

Quirk, R., Greenbaum, S., Leech, G. & Svartvik, J. (1985). *A Comprehensive Grammar of the English Language*. London: Longman Group Limited.

Rijkhoff, J. (2000). When can a language have adjectives? An implicational universal. In: Vogel, P.M. & Comrie, B. (ed.), *Approaches to the Typology of Word Classes*. Berlin/ New York: Mouton de Gruyter, pp. 217-257.

Sandler, W. (1999). 'The Medium and the Message'. *Sign Language & Linguistics* 2(2), pp. 187 – 215.

Sandler, W. & Lillo-Martin, D. (2006). *Sign Language and Linguistic Universals*. Cambridge, Cambridge University Press.

Sands, B. (2009). 'Africa's Linguistic Diversity'. *Language and Linguistics Compass*3 (2), pp. 559–580.

Sapountzaki, G. (2012). 'Agreement Auxiliaries.' In: Pfau, R., Steinbach, M. & Woll, B. (eds.), *Sign Language: An International Handbook*. Berlin: de Gruyter Mouton, pp. 204–226.

Savolainen, L. (2006). 'Interrogatives and Negatives in Finnish Sign Language: An Overview'. In: Zeshan, U. (ed.), *Interrogative and Negative Constructions in Sign Languages*. Nijmegen: Ishara Press, pp. 284–302.

Schembri, A. (2003). 'Rethinking 'Classifiers' in Signed Languages'. In: Emmorey, K. (ed.), *Perspectives on Classifier Constructions in Sign Languages*, New Jersey/London: Lawrence Erlbaum Associates, pp. 3–34.

Schembri, A. & Johnston, T. (2012). 'Sociolinguistic aspects of variantion and change'. In: Pfau, R., Steinbach, M. & Woll, B. (eds.), *Sign Language: an International Handbook*. Berlin: de Gruyter Mouton, pp. 788–815.

Schmaling, C. (2001). ASL in Northern Nigeria: Will Hausa sign language survive? In: Dively, V., Metzger, M., Taub, S. & Baer, A.M. (eds.), *Signed Languages: Discoveries from international research.* Washington, DC: Gallaudet University Press, pp. 180-193.

Schultze-Berndt, E. (2000). *Simple and Complex Verbs in Jaminjung: A study of event categorization in an Australian language.* PhD thesis, Nijmegen: University of Nijmegen.

Schwager, W. and Zeshan, U. (2008). Word classes in sign languages – Criteria and classifications. In Ansaldo, U., J. Don & R. Pfau (eds.) Parts of Speech: Descriptive tools, theoretical constructs. Special Issue of *Studies in Language* 32(3): 509-545.

Sexton, A.L. (1999). 'Grammaticalization in ASL.' *Language Sciences* 21, 105-141.

Shaffer, B. (2002). 'CAN'T: The Negation of Modals in ASL'. *Sign Language Studies* 3 (1), pp. 1- 21.

Shoup, K. & Loberger, G. (2009). *Webster's New World English Grammar Handbook*. Second edition. Hoboken, NJ: Wiley.

Siewierska, A. (2004). 'On the Discourse Basis of Person Agreement'. In: Virtanen, T. (ed.), *Discourse Approaches to Anaphora.* Berlin: Mouton de Gruyter.

Slobin, D.I. (2008). Breaking the Molds: Signed Languages and the Nature of Human Language. *Sign Language Studies* 8(2): 114-130.

Smith, W. H. (1990). 'Evidence for Auxiliaries in Taiwan Sign Language'. In: Fischer, D. S. & Siple, P. (eds.), *Theoretical Issues in Sign Language Research 1*. Chicago and London: The University of Chicago Press, pp. 211–228.

Solomonoff, R. (1964). 'A Formal Theory of Inductive Inference, Part I'. *Information and Control*, 7(1), pp. 1–22.

Soneira, A.F. (2008). *La Cantidad A Manoslienas: La Expression de la Cuantificacion en la Lengua de Espanola.* Madrid: CNSE.

Steinbach, M. & Pfau, R. (2007). 'Grammaticalization of auxiliaries in sign languages'. In: Perniss, P., Pfau, R. & Steinbach, M. (eds.), *Visible Variation: Comparative Studies on Sign Language Structure*. Berlin: Mouton de Gruyter, pp. 303–340.

Steinbach, M. (2012). 'Plurality'. In: Pfau, R., Steinbach, M.& Woll, B. (eds.), *Sign Language: An International Handbook*. Berlin: de Gruyter Mouton, pp. 112–135.

Supalla, T. (1978). 'Morphology of Verbs of Motion and Location in American Sign Language'. In: Caccamise, F. & Hicks, D. (eds.), *American Sign Language in a Bilingual, Bicultural Context: Proceedings of the Second National Symposium on Sign Language Research and Teaching, Coronado, California, Oct 15-19, 1978*. Coronado, CA: National Association of the Deaf, pp. 270–46.

Sutton-Spence, R. & Woll, B. (1999). *The Linguistics of British Sign Language: An Introduction.* Cambridge: Cambridge University Press.

Tang, G. (2006). 'Questions and Negatives in Hong Kong Sign Language'. In: Zeshan, U. (ed.), *Interrogative and Negative Constructions in Sign Languages* (Sign Language Typology Series 1). Nijmegen: Ishara Press, pp. 198–224.

Taub, S.F. (2001). *Language from the Body: Iconicity and Metaphor in American Sign Language*. Cambridge: Cambridge University Press.

Tembe, J. & Norton, B. (2008). 'Promoting Local Languages in Ugandan Primary Schools: The Community as Stakeholder'. *The Canadian Modern Language Review* 65(1), pp. 33–60.

UBOS (Uganda Bureau of Statistics). (2008). 'Main report', http://www.ubos.org/index.php?st=page&id=11&p=Quick%20Statistics

Van Herreweghe, M. & Vermeerbergen, M. (2006). 'Interrogatives and Negatives in Flemish Sign Language'. In: Zeshan, U. (ed.), *Interrogative and Negative Constructions in Sign Languages*. Nijmegen: Ishara Press, pp. 225–256.

Vermeebergen, M., Leeson, L. & Crasborn, O. (2007). *Simultaneity in Signed Languages: Form and function*. Amsterdam: John Benjamins Associates.

Vogel, P.M. & Comrie, B. (2000). *Approaches to the Typology of Word Classes.* Berlin: Mouton de Gruyter.

Wales, K. (1996). *Personal Pronouns in Present-day English*. Cambridge: Cambridge University Press.

Wallin, L. (1983). Compounds in Swedish Sign Language. In: Kyle, J.G. & Woll, B. (eds.), *Language in Sign.* London: Croom Helm, pp. 56-68.

Wallin, L. (1987). *Nonmanual Anaphoric Reference in Swedish Sign Language*. Supplement for Forskning om Teckensprak, Videogram 1 (Research on sign language, Video Report 2). Stockholm: Institute of Linguistics, University of Stockholm.

Wallin, L., Lule, D., Lutalo, S.& Busingye, B. (2006). *Ugandan Sign Language Dictionary.* Kampala: Kyambogo University.

Watters, J.R. (2000). 'Syntax'. In: Heine, B. & Nurse, D. (eds.), *African Languages: An introduction*. Cambridge: Cambridge University Press, pp. 194–230.

Wierzbicka, Anna (1999) *Emotions across Languages and Cultures: Diversity and Univerals.* Cambridge: Cambridge University Press.

Wiese, H. (2003). *Numbers, Language, and the Human Mind*. Cambridge: Cambridge University Press.

Wilbur, R. B. (1995). "Why so-called 'rhetorical questions' (RHQs) are neither rhetorical nor questions." In H. Bos & T. Schermer (eds.), Sign language research 1994: Fourth European congress on sign language research, Munich [International studies on sign language and communication of the Deaf, Vol. 29]. Hamburg: Signum, pp. 149–169.

Wilcox, S. & Wilcox, P. (1995). 'The Gestural Expression of Modality in ASL'. In: Bybee, J. & Fleischman, S. (eds.), *Modality in Grammar and Discourse*. Amsterdam: John Benjamins Publising Company, pp. 135–162.

Wilcox, S., Rossini, P. & Pizzuto, E.A. (2010). 'Grammaticalization in sign languages'. In: Brentari, D. (ed.), *Sign Languages*. Cambridge: Cambridge University Press, pp. 332–354.

Wilkinson, E. (2013). Morphosyntactic variation in American Sign Language: Genre effects on the usage of SELF. In Meurant, L., Sinte, A., Vermeerbergen, M. and Van Herreweghe, M. (eds.) *Sign Language Research, Uses and Practices.* Sign Languages and Deaf Communities No. 1. Berlin and Nijmegen NL: De Gruyter Mouton and Ishara Press.

Zeshan, U. (2000a). *Sign Language in Indo-Pakistan: A Description of a Signed Language.* Amsterdam/Philadelphia: John Benjamins.

Zeshan, U. (2000b). *Gebärdensprachen des indischen Subkontinents*. Munich: LINCOM Europa.

Zeshan, U. (2002). 'Towards a notion of 'word' in sign languages'. In: Dixon, R.M.W. & Aikhenvald, A.Y. (eds.),*Word: A Cross-Linguistic Typology*. Cambridge: Cambridge University Press, pp. 153-179.

Zeshan, U. (2003a) 'Aspects of Türk İşaret Dili (Turkish Sign Language)'. *Sign Language & Linguistics* 6(1), pp. 43–75.

Zeshan, U. (2003b). 'Indo-Pakistani Sign Language Grammar: A Typological Outline'. *Sign Language Studies* 3 (2), pp. 157–212.

Zeshan, U. (2003c). '"Classificatory" constructions in Indo-Pakistani Sign Language: Grammaticalization and lexicalization process'. In: Emmorey, K. (ed.), *Perspectives on Classifier Constructions in Sign Languages*, New Jersey/London: Lawrence Erlbaum Associates, pp. 41–113.

Zeshan, U. (2004). 'Hand, Head, and Face: Negative Constructions in Sign Languages'. *Linguistic Typology* 8, pp. 1–58.

Zeshan, U. (2005a). 'Irregular Negatives in Sign Languages. In: Haspelmath, M., Dryer, M.S., Gil, D. & Comrie, B. (eds.), *The World Atlas of Language Structures*. Oxford: Oxford University Press, pp. 560–563.

Zeshan, U. (2005b). 'Question Particles in Sign Languages'. In: Haspelmath, M., Dryer, M.S., Gil, D. & Comrie, B. (eds.), *The World Atlas of Language Structures*. Oxford: Oxford University Press, pp. 564–567.

Zeshan, U. (2006). *Interrogative and Negative Constructions in Sign Languages* (Sign Language Typology Series 1). Nijmegen: Ishara Press.

Zeshan, U. (2007). 'The ethics of documenting sign languages in village communities'. In: Austin, P.K., Bond, O. & Nathan, D. (eds), *Proceedings of Conference on Language Documentation and Linguistic Theory*. London: SOAS, pp. 269–279.

Zeshan, U. & de Vos, C., eds. (2012). *Endangered Sign Languages in Village Communities: Anthropological and linguistic insights*. Berlin: Mouton de Gruyter & Nijmegen: Ishara Press.

Zeshan, U. & Panda, S. (2011). 'Reciprocal constructions in Indo-Pakistani Sign Language'. In: Evans, N., Gaby, A., Levinson, S. & Majid, A. (eds.), *Reciprocals and Semantic Typology*. Amsterdam: John Benjamins, pp. 91–114.

Zeshan, U. & Perniss, P. (2008). *Possessive and Existential Constructions in Sign Languages (*Sign Language Typology Series 2). Nijmegen: Ishara Press.

Zeshan, U., Escobedo Delgado, C. E., Dikyuva, H., Panda, S. and de Vos, C. (forthcoming) Cardinal numerals in village sign languages – Approaching cross- modal typology. *Linguistic Typology.*

Zimmer, J. & Patschke, C.G. (1990). 'A class of determiners in ASL'. In: Lucas, C. (ed.), *Sign Language Research: Theoretical Issues*. Washington DC: Gallaudet University Press, pp. 201–222.

Zwitserlood, I. (1996). *Who'll handle the object?: An investigation of the NGT classifier*. Unpublished master's dissertation, Utrecht University.

Zwitserlood, I. (2003). *Classifying Hand Configurations in Nederlandse Gebarentaal (Sign Language of the Netherlands).* PhD thesis, Utrecht: Landelijke Onderzoekschool Taalwetenschap (LOT).

APPENDIX 1

Metadata for 47 informants who are included in the analysis

Name	Set	Sex	Place of residence when filmed	School
Aciro	1	Female	North	East
Akol	1	Male	East	East/Kenya
Akullo	1	Female	North	East
Amongi	1	Female	North	East/Kenya
Amuge	1	Female	North	East
Bakebye	1	Male	Kampala	Kampala
Bukenya	1	Male	Kampala	Kampala/Kenya
Constance	1	Female	Kampala	Kampala/Kenya
Denis	1	Male	North	East
Grace	1	Female	North	East
Joan	1	Female	North	East
Judith	1	Female	West	Kampala/Kenya
Kasimgiri	1	Male	Kampala	Kampala
Makumai	1	Male	Kampala	Kampala
Malo	1	Male	East	East/Kenya
Max Mulesa	1	Male	West	Kampala/Kenya
Nsega	1	Male	Kampala	Kampala
Odongo	1	Male	North	East
Okwadi	1	Male	East	East/Kenya
Paul	1	Male	East	East/Kenya
Peter	1	Male	North	East
Rumo	1	Female	East	East/Kenya
Samuel	1	Male	East	East/Kenya
Tembo	1	Male	East	East/Kenya
Twinomugisha	1	Female	West	West
Zirintusa	1	Male	Kampala	Kampala
Akomele	2	Female	Kampala	East/Kenya
Alex	2	Male	Kampala	Kampala/Kenya

Anne	2	Female	East	East/Kenya
Bonnie	2	Female	West	West
Debbie	2	Female	Kampala	East
Dirisa	2	Male	Kampala	Kampala/Kenya
Faith	2	Female	Kampala	Kampala
Flavie	2	Female	Kampala	Kampala/Kenya
Grace Namazzi	2	Female	Kampala	Kampala
Jolly	2	Female	West	West
Kenneth	2	Male	Kampala	Kampala/Kenya
Kenny	2	Male	Kampala	Kampala
Lule	2	Female	Kampala	Kampala
Mboira	2	Male	East	Kampala
Moses	2	Male	Kampala	Kampala
Robert	2	Male	Kampala	Kampala/Kenya
Sam	2	Male	Kampala	Kampala/Kenya
Ssebenkitta	2	Male	Kampala	Kampala
Ssempaka	2	Female	Kampala	Kampala
Sunday	2	Male	North	Kampala
Topher	2	Male	Kampala	Kampala

Where the school of an informant is listed as 'East/Kenya', this means that the participant attended school at a young age in Kumi, but then attended primary school, or secondary school, or both, in Kenya.

APPENDIX 2

Details of annotated texts

File name	From set number	Monologue or dialogue	Minutes	Topic
Ug_lanc1_debbie	1	M	5:43	A university event
Ug_int_max	1	M	8:38	A university event
Ug_amongi_akullo	1	D	4:05	Family stories
Ug_amuge_amongi	1	D	4:41	Politics
Ug_mulesa_akol	1	D	7:38	Education, becoming a sign language teacher, and business
Ug_mulesa_makumai	1	D	3:13	Leisure stories
Ug_judith	1	M	5:44	Family life and employment
Uga_zirintusa_nsega	1	D	3:04	Leisure or Social life
Uga_dirisa	2	M	4:23	A wedding
Uga_mulesa	2	M	7:49	Hearing society's attitude to sign language
Uga_anne	2	M	7:49	Issues for Deaf women in Uganda

Uga_KCa	2	D	14:34	Family life and employment
Uga_KCb	2	D	12:00	Deafness and my life
Uga_lule_akomele1	2	D	14:56	My experience of schooling and Deaf organisation
Uga_lule_akomele2	2	D	20:43	My experience of school and higher education
Uga_ssebenkitta_topher	2	D	26:26	Education and business
Uga_sunday_jolly	2	D	11:31	Educational
Ug_sty_flavie	2	M	8:21	Educational, employer and family
total			2:53:52	

INTERNATIONAL CENTRE FOR SIGN LANGUAGES AND DEAF STUDIES, UNIVERSITY OF CENTRAL LANCASHIRE
Livesey House LH213, Preston PR1 2HE

Consent form

(Please tick "❑" where applicable to show your consent)

❑ I agree to having my sign language data stored and analyzed at the International Centre for Sign Languages and Deaf Studies, University of Central Lancashire, for the purpose of research.

In addition:

❑ I do not consent to the publication of video data or photos because I want to remain completely anonymous. (that is, only transcribed texts and line drawings can be published)

Or:

I agree to the publication of the following:

❑ 1. Photos in publications (print, CD-Rom etc.) and/or

❑ 2. Video segments for conferences (presentations) and/or

❑ 3. Video segments in publications (CD-Rom etc.) and/or

❑ 4. Photos and Videos in the internet.

_____
First name and last name

_____
Place   Date   Signature

_____
In case of parents signing for a child, the child's first and last name