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**AN INTRODUCTORY  
SOUTH AFRICAN SIGN LANGUAGE (SASL) GRAMMAR  
FOR THE BEGINNER SIGN LANGUAGE STUDENT**

**by**

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of the requirements for the degree**

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UOVS SAROL BIBLIOTHEK

**Dedicated to my late husband**

**Jaco,**

**I kept my promise**

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**Thank you, God Almighty**

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## CONVENTIONS

There are several sophisticated and complex 'notation' systems for representing signs. For the purpose of this study the sign language signs and sentences will be glossed using the conventions below, as they are easily understandable and accessible to a beginner sign language student. It is important to note that glossing means choosing an appropriate word (or words) of a natural language, in this study English words, in order to write down signs.

- Individual signs are represented by uppercase letters in English.

BEAUTIFUL, APPLE, STUDENT, HOUSE

- Full fingerspelling is represented by dashes between uppercase letters.

B-E-A-U-T-I-F-U-L, A-P-P-L-E, S-T-U-D-E-N-T, H-O-U-S-E

- Lexicalised fingerspelled words are written in uppercase letters and preceded by the # symbol.

#IF; #OK

- When more than one English word is required to translate a single SASL sign, the words are connected by hyphens.

DRIVE-CARELESSLY, LONG-AGO, PRO.1-ASK-PRO.2

- Pronouns are transcribed as follows:

PRO.1	:	First person singular ( <i>I, me</i> )
PRO.2	:	Second person singular ( <i>you</i> )
PRO.3	:	Third person singular ( <i>he</i> )
POSS.1	:	First person possessive ( <i>mine</i> )
POSS.2	:	Second person possessive ( <i>yours</i> )
POSS.3	:	Third person possessive ( <i>his</i> )
SELF.1	:	First person reflexive ( <i>myself</i> )
SELF.2	:	Second person reflexive ( <i>yourself</i> )
SELF.3	:	Third person reflexive ( <i>himself</i> )

- If a non-manual signal (i.e. a specific facial expression, head position or movement, or a specific combination of these) occurs throughout a sign sequence, it will be symbolised as follows:

          n/m  
DOG CHASE CAT

(The specific non-manuals (n/m) will be described in the text and/or shown in the photo.)

- Inherent non-manual marking and eye-gaze are represented on a line above the sign glosses. The line represents the duration of the particular non-manual signal. The letter(s) above the line represents the particular type of non-manual activity represented by the line.

      wh  
WHAT : *Wh*-question

      y/n  
YOU : *Yes-no* question

      rh  
WHO : Rhetorical question

      t  
MARY : Topic marking

      neg  
NOT : Negation marking

\*SIT\* : Command

      nod  
WILL : Head nod

      br  
AWARE : Brow raise

      fb  
HE ILL : Furrowed brows

      rep  
BOYS TWO : Repetition

pt : Indexing


- Classifiers are glossed as:


CL:5 : Used for a classifier with a 5-handshape


CL:C : Used for a classifier with a C-handshape


- Certain elements of the English language, such as plural markers, past tense markers and prepositions, do not appear in glossing.

- The direction of movement in the photographs will be indicated by arrows.

 : Used to indicate movement

 : Used to indicate that a movement is slower than usual (often to express intensity or duration)

 : Used to indicate that a movement is executed with ease

 : Used to indicate that a movement is forward (horizontal) and not vertical

- If a sign's handshape is the same as a letter in the alphabet, that letter name is assigned to it. For example, a closed fist is similar to the manual alphabet letter 'A', so instead of writing 'fist' the term A-handshape is used. Likewise, an open hand with all the fingers spread out is called a 5-hand. Some handshapes can be described in more detail such as a bent V-handshape.

- A person's stronger, more easily controlled hand is referred to as the dominant hand, while the non-dominant hand is the weaker, less easily manipulated hand. A right-handed person's dominant hand will be his right hand. As left-handed and right-handed signers will use different hands for the same sign, 'left' and 'right' hands will not be referred to, but rather 'dominant' and 'non-dominant' hands. The dominant hand will be used to make one-handed signs. In many two-handed signs the dominant hand will move, while the non-dominant hand remains stationary.

- References to males apply to females as well.

## **CHAPTER 1**

### **INTRODUCTION**

#### **1.1 Defining the problem and demarcating the study**

Signed languages have been suppressed for hundreds of years because they were regarded as a form of miming, with unstructured gestures being made in the air. As a result of this, research on the linguistics of signed language is still rather a new field. The first formal analysis of signed language was published in 1960 by William Stokoe, providing scientific evidence that American Sign Language (ASL) is a true language.

In South Africa very little research has been done on signed language. Unsystematic attempts have been made to document the lexical items (signs) in South African Sign Language (SASL), but formal study of signed language in South Africa only began in 1983 when the Human Sciences Research Council and the National Council for the Deaf undertook a national research programme. Its objectives were to compile a dictionary of signs used by different deaf groups in South Africa, together with a description and analysis of the syntactic, morphological and pragmatic aspects of SASL. There is a growing literature dealing with various aspects of SASL, with works being introduced on its history, lexicography, sociolinguistics and educational uses and implications. However, there is still a need for scientific support in order to make people aware of the existence of signed language as a true language, as well as to enable them to learn signed language.

#### **1.2 Aims and objectives**

The main aim of this dissertation is to present a concrete form of reference aimed at and accessible to hearing people who want to learn SASL. This study begins with the premise that people learn a second or third language by making associations between their own (first) language and the new language. English will be used as an example of a spoken language, while ASL in particular, but also British Sign Language (BSL), will be used to motivate the existence of grammatical elements in SASL. As a

working hypothesis it is accepted that SASL, as an example of signed language, conforms to all the features of spoken language.

The following aspects will be discussed:

- (a) the characteristics and elements of human language,
- (b) background about the history and culture of the Deaf (especially in South Africa),
- (c) certain characteristic features of signed language, such as fingerspelling, word formation processes like pluralisation, using different time frames, the importance of non-manual signals and the structuring of different types of sentences.

### **1.3 Research methodology**

The methodology used in this study involves the integration of different theories of grammar (such as traditional, structural and transformational-generative grammar) so that a comprehensive, yet accessible, description of SASL may be presented. Although the structure of English is not representative of all spoken languages, English will be used as an example of a spoken language and an analogy with SASL will be drawn to show how language's descriptive apparatus can be applied to SASL. The occurrence of certain features of language, with English examples, will be provided, followed by the equivalent and additional features of signed language. Since very little research has been done on SASL, the research done on ASL and BSL are used as the basis for signed language. The SASL examples serve as cross-validation of the features that occur in other signed and spoken languages.

There are different labelling systems to describe and discuss signs, but these are very detailed and difficult and take a long time to learn. For the purpose of this study, signs are seen as consisting of five parameters: handshape, movement, location, orientation and non-manual behaviours. This system is found to be more accessible to the beginner hearing signed language student.

During the course of this study the layout of the chapters and their sub-sections posed serious problems. Although signed language fulfils all the requirements for

classification as a language, certain phenomena cannot always be placed under the same grammatical groupings as would be found in the Germanic languages. This is not a unique problem, however. Linguists experienced similar problems when indigenous American Indian languages were analysed, for instance, and also when existing categories that apply to Indo-European languages were applied to languages with different structures (Ivić, 1965:152). The major problem in a comparison between signed language and English is that signed language is a much more highly inflected language, and many phenomena that are categorised under syntax in English are morphological of nature in signed language. Care must be taken not to force the structure of spoken language onto signed language by attempting to use the usual grammatical classifications. Nevertheless, it was decided to make use of the known grammatical groupings to assist in making associations between the known language (English) and the unknown one (signed language). Where a language occurrence is both morphological and syntactic of nature, this is indicated. Most of these phenomena (plurals, classifiers, time and aspect) are discussed under morphology in the majority of sources consulted, or else dealt with in a separate chapter.

#### **1.4 Organisation of the study**

Chapter 2 explains the characteristics of human language (spoken and signed). A short history of signed language is provided and certain features are explained with the intention of clearing up some of the misconceptions about signed language. Chapter 3 provides an equivalent in signed language for the distinctive parts of a sound in spoken language, and provides evidence for this equality by demonstrating minimal pairs in SASL. The morphology of SASL is examined in Chapter 4, focusing on the various word formation processes in signed language. It becomes clear that signed languages are highly inflected and it is problematic to adhere to the traditional classification of morphological and syntactic features in signed language. The groupings of grammatical categories in signed language that correspond with those of spoken languages, as well as an outline of the sentence structure of the different types of SASL sentences, is presented in Chapter 5. Chapter 6 provides a brief summary of the study as a whole.

## CHAPTER 2

### FEATURES OF SIGNED LANGUAGE

#### 2 Overview

This chapter deals with some of the features of human language and provides basic information about signed languages. Section 2.1 presents an overview of the characteristics of human language as opposed to other forms of communication such as Morse code, traffic signals, and the communication systems used by bees, birds, dolphins, and non-human primates (Valli & Lucas, 1995:2). Section 2.2 distinguishes between spoken and signed languages and at the same time shows their similarities. Some of the misconceptions about signed languages are examined in section 2.3. Section 2.4 explains the use of space in signed language, while the importance and different functions of non-manual grammatical signals are discussed very briefly in section 2.5. Section 2.6 provides a historical background of signed language, its suppression and some of the invented codes that are used to teach deaf children. This is followed in section 2.7 by a short discussion about the diversity of the signed languages in South Africa and confirmation that they do indeed comply with all the requirements of a language.

#### 2.1 Some basic concepts of language

Baker-Shenk & Cokely (1994:31) and Valli & Lucas (1995:2,9) define a language as a system of symbols that represents something else. A symbol could be a letter (like *a*) that represents a sound, or it could be a word (like *apple*) that represents an object (in this case the fruit). This relationship between the symbol and the thing it represents is arbitrary (Cogill-Koez, 2000:159; Fromkin & Rodman, 1998:5). These symbols have distinctive parts (as demonstrated in Chapter 3), and they are structured, as can be seen in Chapter 4. Also, these symbols are organised according to the rules of the language to form meaningful utterances. For example, sequences of words that conform to the rules of syntax form grammatical sentences, like *Henry wants to be a gentleman* in English. Grammatical signals, such as prepositions and word order,

show how these symbols are related to each other (Baker-Shenk & Cokely, 1994:31; Penn & Reagan, 1991:1,2; Valli & Lucas, 1995:9).

Members of a community do not only use language to communicate with each other but to transmit their culture from generation to generation and to reinforce the sense of group cohesion (Akach & Lubbe, 2003; Baker-Shenk & Cokely, 1994:31). A Deaf community is not like an ethnic or religious community where the members share a single distinctive feature or live in a specific geographical area. There are many factors to be considered in order to understand who the members are: a person must identify himself as a member of the community, and must be able to speak signed language. Every language group has a culture of its own and the members socialise together and have their own organisations. Deaf people are no exception: they belong to the deaf community and have deaf clubs, deaf associations and church groups (Penn & Reagan, 1990:91).

Human language has the ability to create new words and produce and understand an infinite number of new (never used before) sentences, with a finite number of words and a limited number of rules because of its productive nature, or the creative aspect of language (Fromkin & Rodman, 1998:9,10; Lyons, 1981:108; Valli & Lucas, 1995:9,10,51,118; Yule, 1996:22,23,101).

Unlike animals, human beings do not instinctively communicate in any specific language. Humans are born with the genetically transmitted ability to acquire language. However, the acquisition of a specific language is dependent on the surroundings. Children acquire a language through the process of cultural transmission, i.e. they learn a language from a language community (Akmajian, Demers & Harnish, 1984:162; Yule, 1996:24).

Users of a language have linguistic knowledge. This means that they know how to use the language even though they are not consciously aware of all the rules of the language. This unconscious linguistic knowledge is referred to as a speaker's linguistic competence and it enables him to produce grammatical utterances and to make systematical judgments about the grammaticality or ungrammaticality of an utterance. Linguistic performance is the use of this linguistic knowledge in actual



speech production and comprehension (Akmajian *et al.*, 1984:164,165; Fromkin & Rodman, 1998:12; Valli & Lucas, 1995:203).

## 2.2 A comparison between spoken and signed language

Language is not dependent on sound. A language can be conveyed in different ways, known as modalities, for example, speech, writing and sign (Penn & Reagan, 1991:2; Wilcox, 2001). Spoken languages use sound, produced by the vocal apparatus, to communicate, while signed languages utilise the signing space, hands, arms, face and upper body. Thus, spoken languages are aural-oral languages and signed languages are visual-gestural languages (Aarons, 1994:26,27; Akach & Lubbe, 2003; Akach & Morgan, 1999:68; Hamm, 2001; Penn & Reagan, 1990:91).

Except for this difference in modality, signed languages resemble spoken languages in every other way. Signed languages have developed naturally among deaf people all over the world. Just as there are many spoken languages there are also many different signed languages (Aarons, 1995:9; Akach & Lubbe, 2003; Akach & Morgan, 1999:68; Deafsa, 2001; Hamm, 2001; Neidle, Kegl, Maclaughlin, Bahan & Lee, 2000:11,12; Penn, 1992: 277; Penn & Reagan, 1990:92; Wolkomir, 1992:30). Every signed language has its own vocabulary and grammar (structure) equivalent to those of spoken languages, and just as effective at conveying messages. Signs in signed languages are equivalent to words in spoken languages (Aarons, 1995:8-10; Aarons & Akach, 1998:2,3; Akach & Lubbe, 2003; Cogill-Koez, 2000:153; Deafsa, 2001; Electric Library, 2001; Fromkin & Rodman, 1998:28; Gale Encyclopedia, 2001; Grushkin, 1998:143; O'Regan, 1996:429; Penn, 1992:279; Penn & Reagan, 1991:2; Warren, Meyer & Tesner, 1986: 56).

In section 2.1 a language was defined as a system of symbols that represents something else. The form of such a symbol, e.g. the word *apple*, usually has no natural relation to the real object it represents, in this case the fruit. This property of human language is called arbitrariness. In other words, by hearing the English word *apple*, one would not be able to guess the meaning. Likewise, by seeing the SASL sign REPRESENTATIVE one cannot know its meaning without having learned it

before (Baker-Shenk & Cokely, 1994:37; Fromkin & Rodman, 1998:7,96; Valli & Lucas, 1995:210-213; Yule, 1996:21-22).

However, all languages have onomatopoeic words or signs that “imitate” the real object. Someone that does not understand English will know that *bow-wow* represents the sound that a dog makes, and that *meow* represents the sound that a cat makes. *Cuckoo*, *crash* and *slurp* are further examples of onomatopoeic words in English. The following are examples of onomatopoeic words in SASL: TEA, PRAY, DRIVE (see Fig.2.1), GRAPES, WATERMELON, EAT and WRITE. In all of these words, one could guess the meaning of the word without having learned it before (Baker-Shenk & Cokely, 1994:38,39; Fromkin & Rodman, 1998:96; Valli & Lucas, 1995:210-213; Yule, 1996:21-22).



Figure 2.1: Examples of onomatopoeic signs in SASL: TEA; PRAY; DRIVE

Most people are under the misconception that signed languages consist of onomatopoeic or mimetic signs only. If this were true, it would be impossible to talk about things that happened in the past or future or about abstract concepts. However, this is not the case, which confirms that signed languages are arbitrary, just like spoken language.

Language and culture are interwoven, and they influence each other. It is a common occurrence that people's language use and even vocabulary are partly influenced by their sex, age, racial or ethnic background, context of discourse and different geographical regions. Variations in language are present in both spoken and signed languages. In South Africa, the signed languages used in the different regions and amongst different racial groups show extensive lexical variation. This means that

there are different signs for the same concept in different regions of the country. Another reason for such variations may be the infiltration of signed languages from other countries, which have had an influence since the beginning of the first schools for the Deaf in South Africa. Examples of concepts that are represented by different signs in the different geographical regions are FATHER (see Fig.2.2), MOTHER, WATER and WHITE (Aarons, 1995:8,9; Baker-Shenk & Cokely, 1994:83; Penn & Reagan, 1994:319-327; Reagan & Penn, 1997:5,6).



Figure 2.2: Regional variations of the sign FATHER in SASL

### 2.3 Facts and fallacies about signed language

Many signed languages have developed independently all over the world amongst communities of deaf people wishing to communicate. Consequently, there are many different signed languages, such as ASL, BSL and SASL. Some signed languages, like ASL and French Sign Language (FSL), are related to each other in the same way that some spoken languages, like Afrikaans and Dutch, are related. While there is no international Sign Language, the aspect of space is the primary characteristic of signed languages all over the world (Aarons, 1995:8,9; Aarons & Akach, 1998:2;

Foreman, Penn & Reagan, 1994:120; Friedman, 1977:1; O'Regan, 1996:429; Penn, 1992:277; Penn & Reagan, 1990:92; Wolkomir, 1992:30).

Fingerspelling represents written language. Each of the 26 letters of the written alphabet is represented manually by a sign consisting of a handshape, location, orientation and movement. For instance, the English word *apple* would be signed letter by letter A-P-P-L-E according to the written language (Akach & Lubbe, 2003; Deafsa 2001; Johnston & Schembri, 1999:112; Kyle & Woll, 1988:123,124; Lane, Hoffmeister & Bahan, 1996:270; Valli & Lucas, 1995:63).

Despite the myth that signed language entails only fingerspelling of all the words of a spoken language, fingerspelling is only used for limited purposes, for example, to represent proper nouns, or to explain words that may not be well known to a signer from a different region. It may be used to introduce new words that do not have equivalents in signed language yet, such as new words occurring in technology, current affairs, or academic discussion. When fingerspelling is used for regional variations, proper nouns or to introduce new words, the signer will fingerspell the word and then give its sign, for example S-O-U-T-H A-F-R-I-C-A. Fingerspelling often accompanies a sign with a similar meaning but with more information. Thus it is clear that fingerspelling does not replace signing, but supplements it (Akach & Lubbe, 2003; Deafsa, 2001; Kyle & Woll 1988:124; Marschark, 1997:50; O'Regan, 1996:429; Sutton-Spence & Woll, 1999:17).

## **2.4 The use of space in signed language**

The relationship between two referents in a language are indicated by the use of prepositions, such as *in*, *inside*, *on*, *at*, *with* in English. All natural signed languages, including SASL, use the signing space to make grammatical relations between signs and to indicate such things as the passage of time, the position of objects, and their significance (Akach, 1997:25,26; Foreman *et al.*, 1994:118,120,122; Marschark, 1997:59,61; Valli & Lucas, 1995:9,75).

The signing space is the area in front of the signer in which the signer produces signs, as indicated in Fig.2.3. The smaller circle indicates the possible place of articulation, to produce fingerspelling, for example.



Figure 2.3: The signing space and the possible place of articulation

During a conversation or storytelling the signer establishes the location of people, objects and places in the signing space. This is done by producing the full sign (or fingerspelling a proper noun) at the specific location in the signing space, to the right, to the left, or in front of the signer, and then pointing or gazing at that location. This pointing with the index finger to indicate the location of a person or object is called *indexing* and will be glossed as 'pt'. The similar gazing with the eyes is called *eye-indexing*. After establishing the location of the object or person, the signer can refer to it by indexing or gazing at the location in which it was put, even when other signs have intervened. This feature of establishing the location of a person or object in the signing space is called placing. The signer can also indicate a shift in the frame of reference by means of 'role-playing'. This is achieved by shifting the body, and even by modifying facial expressions, body posture and style of signing. Each referent remains situated in that area until the signer moves it to another location. This way cohesion of the discourse is established and the referents remain unambiguous (Akach, 1997:25,26; Foreman *et al.*, 1994:118,120,122; Marschark, 1997:61).

It is important to note that the signing space can be used in two different ways by the language. Referents that are physically present during the discourse will be placed in locations in the signing space corresponding to their actual locations. Likewise, when

a shopping centre is described, for example, the post office will be placed next to the bank in the signing space, in direct relation to actual locations in the building. When referring to people, things and places that are not present in the discourse, they are assigned arbitrary locations in the signing space. In other words, they are assigned locations in the signing space that do not reflect their actual locations in the world. Furthermore, totally abstract concepts can be placed in the signing space to make a discussion between the two possible. This way a sign representing HONESTY could be placed in one area and a sign for WEALTH in another to enable the signer to discuss the relative merits of the two (Foreman *et al.*, 1994:119; Sutton-Spence & Woll, 1999:129,130).

## 2.5 Non-manual signals

Non-manual signals, like facial expressions (which usually involve brow movement, tilt of the face, mouth tension and eye-gaze), posture, movement and orientation of the head and body, have grammatical meaning in all natural signed languages, i.e. they can change meaning. Non-manual markers are a very important, integral part of signed language, and occur in almost every aspect of the language. Thus, the different functions of non-manual markers are listed here for the sake of clarity, although they will be discussed in more detail in later chapters (Akach, 1997:28; Akach & Morgan, 1999:68; Anderson & Reilly, 1998:117; Deafsa, 2001; Foreman *et al.*, 1994:120; Liddell, 1980:1; Wilbur & Patschke, 1999:3; Wolkomir, 1992:30).

Non-manual signals often determine the sentence type. The declarative sentence HOME YOU has neutral facial expressions. However, the sentence can be changed to a *yes-no* question (5.5.2.1) or to a negation (5.5.5) by merely adding the appropriate non-manual signals. These markings are indicated by a line above the appropriate part of the sentence (Anderson & Reilly, 1998:117; Baker-Shenk & Cokely, 1994:145,146; Deafsa, 2001; Foreman *et al.*, 1994:120; Valli & Lucas, 1995:142; Wilbur & Patschke, 1999:3).

Non-manual behaviours can indicate time, for example, that something has happened close to the present time, long ago or will happen in the future (4.3.2.2.2). Non-manual markings can modify a verb to indicate that an action is performed with ease,

difficulty (4.3.2.4) or repeatedly over a period of time (4.3.2.2.2). A nod of the head or repeated nodding, often accompanied by a tightening of the closed lips, can be used to emphasise that something is true or that it really happened or will happen (5.5.4). Non-manual signals (in this case, widened eyes and puffed up cheeks) can accompany a sign to mean 'big tree' instead of just 'tree' (4.3.2.3) (Baker-Shenk & Cokely, 1994:155,177,178; Foreman *et al.*, 1994:120,121; Kyle & Woll, 1988:151; Wilbur & Patschke, 1999:3).

## 2.6 Historic background to signed language

In the 16<sup>th</sup> century signed language was used in the education of the Deaf in France and Ireland. In Spain, Scotland and Germany oralism was used. The term *oralism* refers to the method of communication where the Deaf have to learn to speak and to lip-read.

In 1783 signed language was systematised by Abbé Charles Michel de l'Épée et Sicard in France and spread to other schools for the Deaf in Europe. In 1816 an American educator, Thomas H. Gallaudet, studied the French method of Deaf education at the Royal Institute for the Deaf and Mute. He returned to the United States with a deaf teacher, Laurent Clerc, and together they established the first American school for the Deaf in Hartford, Connecticut, in 1817. They adapted the French signing method for use in American classrooms (Electric Library, 2001).

At the end of the 19<sup>th</sup> century educators who believed in oralism opposed the French method. They claimed that deaf people would be less isolated from hearing people if they learned to speak. They also considered signed languages to be inferior to spoken languages. Hearing people viewed themselves as the 'norm': deaf people were different and had to be helped to become as 'normal' as possible. This so-called *pathological view* of hearing people motivated them to invent systems of communication to help deaf people to learn to speak. At the International Congress of the Deaf in Milan in 1880, from which deaf delegates were excluded, the hearing teachers and educationalists voted for the implementation of oralism in schools for the Deaf. Signed language was banned from the classroom and consequently became an underground language worldwide (Aarons & Akach, 1998:7; Akach & Morgan,

1999:69; Lane *et al.*, 1996:213,214). Signed languages became stigmatised and many deaf people ceased to regard them as proper languages. At the beginning of the 20<sup>th</sup> century oralism became the accepted method of Deaf education over the world. The language of instruction was English, and the focus and aim of all educational endeavour was that the Deaf should speak and understand speech (Deafsa, 2001; Lane *et al.*, 1996:213,214).

In 1960 William Stokoe, an American linguist, published a scientific research report demonstrating that ASL was a natural language with a distinct vocabulary and grammatical structures. The scientific proof that language could also occur in a different modality gave rise to a *cultural view* of deaf people. The attitude of those who hold this view is that the Deaf community should be accepted and respected as a separate cultural group with its own values and language (based on linguistic and sociological research findings). This mind-shift did not occur overnight, however. Since the 1970s and 1980s educators have become less obsessed with spoken English in Deaf education. Instead, the focus has shifted to Total Communication (TC). TC is the philosophy of using all means of communication such as the language of the country concerned, signed language, pantomime, fingerspelling, drawing and pointing at the same time to try to teach deaf children. Even today the extent to which signed language is used in the classroom, varies from school to school (Akach & Morgan, 1999:72; Baker-Schenk & Cokely, 1994:65; Deafsa, 2001; Lane *et al.*, 1996: 213,214,270).

Different signing systems, called manually coded English (MCE), in English speaking countries, have been invented to try to represent a spoken language manually. These codes or language systems are also called SEE (Signed Exact English), or simply, Signed English. From a linguistic perspective, these systems are not natural languages in their own right, because they use signed language words and try to fit them into spoken language structure. When signs do not exist to use for the inflections of the spoken language, fingerspelling or new signs are invented. These signed codes are unable to express various aspects of the structure and form of spoken languages, such as spoken intonation (Baker-Schenk & Cokely, 1994:66; Lane *et al.*, 1996:270; Liddell 1980:v).



The MCE system, Seeing Essential English (SEE1), breaks English words down into their smallest meaningful parts. A sign is then created to represent the meaning of each part. SEE1 signs are essentially based on the spelling of English syllables, for example *carpet* will be signed using the sign for CAR and the sign for PET (Baker-Shenk & Cokely, 1994:66; Lane *et al.*, 1996:270).

With the Signed Exact English (SEE2) existing signs are used or new signs are created to represent English words. The English words consist of three categories: spelling, pronunciation and meaning. If any two of these criteria are the same in English words, the same sign is assigned to that word/sign. Thus, only one sign would be used for *right* (direction), *right* (correct) and *right* (privilege). Also a fingerspelled -L-Y will be added to adjectives to create adverbs (Baker-Shenk & Cokely, 1994:66; Lane *et al.*, 1996:270).

The problem resulting from these codes is that the signed language signs do not convey the desired meaning as they are changed and forced to fit into English sentence structure. Since the signs do not fit into the English structure, people make the assumption that signed languages are not real languages, while in fact, signed languages have their own structure. It is important to remember that "languages develop, they are determined by history, by culture, and by geography, and cannot be artificially constructed" (Penn, Lewis & Greenstein, 1984:7).

Since the 1980's the bilingual-bicultural approach has been used in some schools. This approach implies that signed language is the first language of the Deaf and therefore the medium of instruction, while only the written form of a spoken language is taught.

## **2.7 The situation in South Africa**

In South Africa, the education of the Deaf was left mainly to the churches. The first school for the Deaf (of all race groups) in South Africa was established in Cape Town in 1863 by the Irish Dominican Order. Signed language was used as the medium of instruction and English was taught as the written language. In 1884 German Dominican nuns established a school at Kingwilliamstown that only white Deaf

children were allowed to attend. They followed a policy of strict oralism (presumably because of the overwhelming influence of oralism in Germany). In 1904 the Dutch Reformed Church established two other schools for white Deaf children where combined oral and manual methods were used. In 1933 a coloured school for the Deaf was established by the Dutch Reformed Church, with the same policy: spoken Afrikaans and some manualism. By 1920 oralism was formally adopted in deaf schools and only the 'backward' children were allowed to use manualism. In 1937 the Irish Dominicans opened a separate school for the 'non-European' Deaf children. From 1960 they also used oralism. From then on the use of signed language in schools was prohibited and the signed language itself was treated as unsuitable behaviour, something to be ashamed of. Although manual communication had been accepted in black schools from as early as 1948, English or Afrikaans remained the medium of instruction in schools for white deaf children (Aarons, 1999:114,115; Aarons & Akach, 1998:6-11; Penn, 1992:281).

A conference was held at the Human Sciences Research Council in Pretoria in 1983 on the problems associated with the education of the Deaf in South Africa. The South African Sign Language Research Programme (SASLRP) was initiated. One of the objectives of the SASLRP was to compile a dictionary of the signs used by different deaf groups in South Africa. Another objective was to provide a description and analysis of the syntactic, morphological and pragmatic aspects of SASL, as well as the development of teaching material for the teaching of SASL to hearing people (Foreman *et al.*, 1994:118).

After determining the nature and variety of signed languages used by the South African deaf community, Penn *et al.* (1984:10) confirmed that all the signed languages used in South Africa had an arbitrary, rule-governed, rich cultural and linguistic heritage, equivalent to those of spoken languages and similar to other signed languages in the world. They confirmed that the features present in the South African signed languages corresponded to those features that proved other signed languages, such as ASL, to be a syntactic, linguistically sound language. Penn *et al.* (1994:8-10) later confirmed that the 'time line' and non-manual signals are used in the same ways in South African signed languages as in ASL and other signed languages, and that they have the same functions. SASL signs have all the structural characteristics that

are documented in other natural signed languages, such as the role of handshapes, movement, signing space, palm orientation, directionality and use of classifiers (Foreman *et al.*, 1994:122; Penn, 1992:279; Penn & Reagan, 1994:319-326; Penn *et al.*, 1984:7; Warren *et al.*, 1986:56).

South Africa is a country of linguistic and cultural diversity. Not only are there many spoken languages, but there are also a wide variety of signed languages being used by the Deaf. Although the different signed languages show lexical and cultural diversity, there is uniformity in the morphological and syntactic rules. This cultural and linguistic diversity of the signed languages used in South Africa is due to the ethnic and linguistic diversity of the population, the history of Deaf education, the educational policies and the geographic factors (Aarons, 1999:126; Deafsa, 2001; Penn *et al.*, 1991:131).

Simon-Meyer (1999:15) claims that the situation in South Africa has improved a great deal over the past few years. The Deaf Federation of South Africa (DEAFSA) is lobbying for change at national policy level, particularly in the area of assisting the Department of Education to implement plans to address barriers facing Deaf learners, and with the legislation and implementation of actions to make television more accessible to the Deaf. According to Nico Beaurain, director of DEAFSA, this was one of the biggest hurdles and would greatly assist Deaf people in their push for human rights as it would expose them to information.

According to Aarons (1999:112-114) and Aarons & Akach (1998:3) there is still much room for improvement. Despite the stipulation in the new Constitution of the Republic of South Africa (1996) that SASL should be the medium of instruction in schools for the Deaf, this has not yet been implemented. Deaf people are still not seen as a minority group or as members of a different cultural or linguistic community. This is to a large extent because their language is still neither recognised nor acknowledged.

## 2.8 Conclusion

In this chapter human language has been described as a system of mainly arbitrary symbols that are structured according to certain rules to convey meaning. It has been shown that this meaning can be conveyed through different modalities. Spoken languages use the modality of sound (aural-oral) to convey messages while signed languages use the modality of space (visual-gestural). In spite of this difference in modality, signed languages resemble spoken languages in every other aspect. Signed languages are not just elaborate forms of miming or fingerspelled versions of spoken languages, but rather rule-governed systems of arbitrary symbols. Signed languages are not inferior to spoken languages; they have the same intellectual, expressive and social functions as spoken languages. Thus, signed languages can be defined as languages. Similar to spoken language, signed languages also have dialects. Gestures are precise, regular, rule-governed body movements that form the words and intonation of the language. Signs in signed language are the equivalent of words in spoken language. Non-manual signals form an important part of the grammar of signed language and can modify meaning. Signed languages are complete linguistic languages that have developed naturally among a community of Deaf people. Although there is not one universal sign language, all signed languages share certain features such as the use of space and the grammatical importance of non-manual signals (Aarons, 1995:8,9; Brennan, 1992:182,183; Deafsa, 2001; Friedman, 1977:1; Foreman *et al.*, 1994:122; Fromkin & Rodman, 1998:28,4; Job, 1990:52; Neidle *et al.*, 2000:27; Volterra, 1992:207; Wilcox, 2001).

## CHAPTER 3

### PHONOLOGY

#### 3 Overview

In the previous chapter the characteristics of language were discussed and it became clear that the characteristics of signed languages are similar to those of spoken languages. In this chapter the term phonology will be defined in section 3.1. Section 3.2 focuses on the smallest meaning-distinguishing units in spoken and signed languages, and demonstrates their significance with minimal pairs. Phonological processes that occur in signed language, such as assimilation, are discussed in section 3.3, while section 3.4 provides a brief outline of the phonological models (labelling systems) devised by Stokoe and by Liddell & Johnson. It is very difficult to obtain the original sources for the Stokoe and the Liddell & Johnson models, and secondary sources have had to be resorted to in this section.

#### 3.1 Defining phonology

Phonology is the study of how phonemes, the smallest contrastive or distinctive parts of a language, are combined and organised to convey meaning in a particular language. Phonology of spoken languages is the description of the systems and patterns of speech sounds in a language (Akmajian *et al.*, 1984:4; Electric Library, 2001; Fromkin & Rodman, 1998:253).

#### 3.2 Parts of a sign

The smallest meaning-distinguishing units in a language are called phonemes. In the two English words *pat* and *bat* the difference in meaning is due to the contrast in only one sound, occurring in the same position. In this example *p* and *b* are two phonemes, written /p/ and /b/. The two words *pat* and *bat* are described as a minimal pair (Yule, 1996:56). This difference between the two phonemes is a result of the presence or absence of one of the distinctive features of the phoneme, in this case [voice]. A phoneme consists of a bundle of articulatory features, like [nasal] (whether or not the

sound is nasalised), and [voice] (whether or not the sound is voiced). The distinctive features of the phonemes /p/ and /b/ are [stop, labial, voiced, nasal]. If a specific feature is present in the pronunciation of the phoneme, it is indicated with a '+' and if that particular feature is not present, it is indicated with a '-' (Fromkin & Rodman, 1998:262,263).

	p	b	s
Stop	+	+	-
Labial	+	+	-
Voiced	-	+	-
Nasal	-	-	-
Continuous	-	-	+

The phonology of signed languages refers to the study of how signs are structured and organised to convey meaning (Electric Library, 2001; Sutton-Spence & Woll, 1999:154; Valli & Lucas, 1995:18,46). Just as phonemes combine to form meaningful units in speech, a sign consists of a limited set of intrinsically meaningless elements, referred to as parameters, which combine simultaneously to form meaningful units (Cogill-Koez, 2000:158; Warren *et al.*, 1986:56). The phonological units (parameters) are handshape, palm orientation, the movement of the sign, the place of articulation (the location) and non-manual signals (Akach & Lubbe, 2003; Baker-Shenk & Cokely, 1994:79; Deafsa, 2001; Friedman, 1977:4; Fromkin & Rodman, 1998:246,247; Johnston & Schembri, 1999:118; Newkirk, 1998:173; Valli & Lucas, 1995:18). In order to explain the description of signs using the five parameters, the sign that represents the English letter *b* will be described:

- Handshape (Hand): a flat hand with thumb touching the palm
- Palm orientation (Palm): palm faces away from the signer, in the opposite direction
- Movement (Mov): none
- Location (Loc): in front of the dominant shoulder (the sign is made with the dominant hand)
- Non-manual signals (N/m): neutral facial expression.

It is important to note that the B-handshape that is used in fingerspelling can be referred to as the 'neutral' B-handshape. Various different B-handshapes are used in the production of signs, for example a spread B-handshape (WHEN; WHERE), or a B-handshape with thumb out (WORK; HELLO), or thumb next to hand (MOTHER; GIRL).

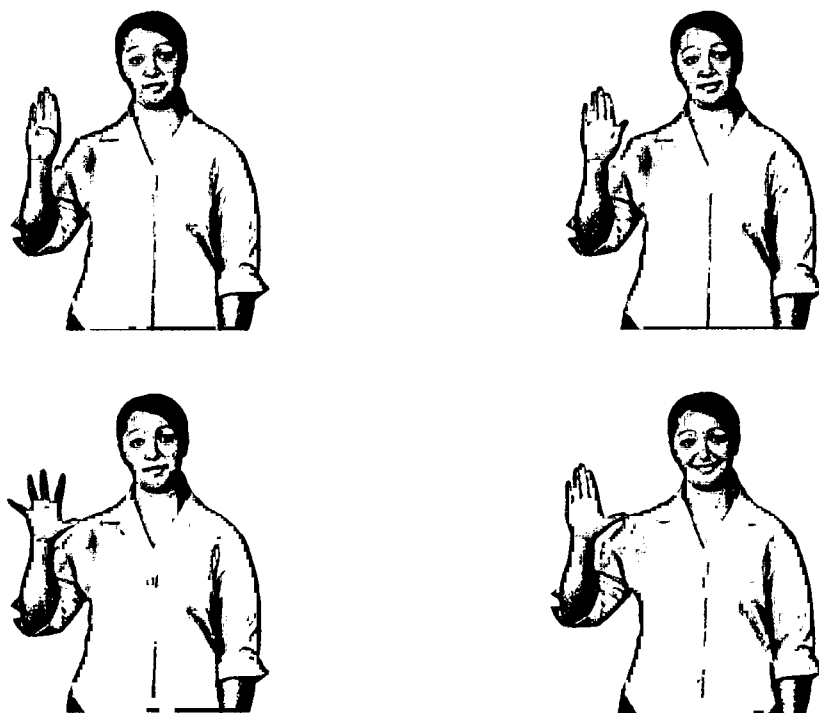


Figure 3.1: Examples of various B-handshapes in SASL

These parameters of a sign are important, as they can be responsible for differences in meaning. Two signs can share three or four parameters, but the difference in only one parameter will cause a difference in meaning. These distinctive parameters in signed language can be regarded as equivalent to the distinctive features of sounds in spoken languages.

Likewise, a sign is a bundle of articulatory features (parameters). A difference in one of these features in the same position of the sign will result in a difference in meaning. This can be demonstrated best with minimal pairs. A minimal pair in signed language is a pair of signs which differs in only one parameter (distinctive feature) and has different meanings as a result thereof (Fromkin & Rodman, 1998:262,263; Sutton-Spence & Woll, 1999:157; Valli & Lucas, 1995:18; Yule, 1996:54,57).

### 3.3 Phonological processes

There are phonological processes that account for the way in which phonemes in spoken languages or the parts of signs in signed languages may influence each other (assimilation) or occur in different orders (metathesis). Movement may be added or eliminated when signs occur in sequence, just as sound units may be added or omitted when words in spoken languages are pronounced sequentially (Valli & Lucas, 1995:41-45; Yule, 1996:59). For the purpose of this study assimilation will be discussed as an example of a phonological process. Assimilation occurs when a segment takes on the characteristics of another segment near it, usually the one just before or after it (Valli & Lucas, 1995:44). In spoken languages nasalisation occurs frequently when a vowel immediately precedes a nasal, e.g. the /i/ sound in the English word *seen* (Yule, 1996:56). Instead of pronouncing the sound /i/ as in *seed*, the /i/ sound is nasalised and pronounced [ɪ̃]. Assimilation in signed language occurs frequently in compounds. For example, the compound CHURCH consists of the two words HOUSE and PRAY. But when the compound is articulated, the last movement of the first word (HOUSE) flows into the second word (PRAY).

### 3.4 Historic overview of the concept of parameters in signed language

Linguists have devised different systems for describing the structure of signs. Two of these labelling systems - the Stokoe system and the Liddell & Johnson system - will be discussed (Valli & Lucas, 1995:20,21).

William Stokoe was the first linguist to show that the signs of signed languages are something more than gestures which lack internal structure. He described this in his seminal work *Sign Language Structure: An Outline of the Visual Communication System of the American Deaf* (1960). He devised a system for describing ASL signs. From his research, he concluded that signs have parts: signs have three parameters - handshape, movement and location (orientation was added to the system later) (Valli & Lucas, 1995:20,21,46). Stokoe emphasised the simultaneity of a sign's three formational aspects, as well as some of the sequential characteristics of ASL signs, particularly in the movement aspect (Bonvillian & Siedlecki, 1998; Valli & Lucas,



1995:46,47). He assigned symbols to all the parameters that signs may consist of. In other words, every possible location, every handshape and every movement that is used in the production of signs, has its own symbol. However, the level of detail and sequentiality in the description of signs is not specific enough.

Liddell & Johnson added a fifth parameter, that of non-manual signals, to Stokoe's model. Liddell & Johnson claim that signs are composed of sequentially produced movements and holds and that the handshape, location, orientation, and non-manual information is contained in bundles of articulatory features. They introduced a theoretical model of sign structure which segments signs on the basis of movement sequences. The segment types are divided into broad categories: M (movement), where the hand(s) move(s) along a path, and H (hold), where the hand(s) remain(s) stationary. According to Liddell & Johnson signed language phonology parallels spoken language phonology because both divide the segments that make up the words or signs into two main types of units: consonants and vowels in spoken languages and holds and movements in signed languages. The level of detail in the Movement-Hold Model allows for the adequate description of sign structure and of sign processes in signed languages (Valli & Lucas, 1995:46,47).

According to Akach (1997:19) and Valli & Lucas (1995:46) the fundamental structure of signed languages is parallel to the fundamental structure of spoken language, because both involve simultaneous and sequential organisation of the parts of signs.

### **3.5 Conclusion**

This chapter has defined the phonology of spoken languages and applied the concepts to signed languages. It was demonstrated that "whatever a phonological system is, spoken and signed language both have one" (Cogill-Koez, 2000:158). The existence of minimal pairs provide evidence that parameters, the distinctive meaning-distinguishing parts of a sign in signed language, are equivalent to the phonemes of a sound in spoken languages. The occurrence of assimilation, as an example of a phonological process in both spoken and signed languages, was discussed in SASL. A brief overview of Stokoe's and Liddell & Johnson's perspectives on signed language phonology was provided. It was made clear that the same level of structure exists in

signed language and spoken language, despite the differences in modality. For the purpose of this study, the five parameters of a sign will be used to describe the structure of signs.

## CHAPTER 4

### MORPHOLOGY

#### 4 Overview

In the previous chapter on phonology the parameters of a sign in signed language were shown to be equivalent to the distinctive features of a sound in spoken language, and the individual sign in signed languages was shown to be equivalent to the word in spoken languages. This chapter deals with the word and word formation processes.

A definition of morphology is provided in 4.1, while the different types of morphemes are defined and discussed in 4.2. In 4.3 the different types of word formation processes such as derivation, inflection, compounding and borrowing are discussed.

#### 4.1 Defining morphology

Morphology is the study of word formation (the structure of words). It is the study of the smallest meaningful units in language and of the rules according to which those units combine to build new words or signs (Electric Library, 2001; Fromkin & Rodman, 1998:69; Valli & Lucas, 1995:51,52).

#### 4.2 Morphemes

Morphemes are the smallest meaningful units in language (Akmajian *et al.*, 1984:58; Crystal, 1997:90; Fromkin & Rodman, 1998:69; Johnston & Schembri, 1999:118; Lyons, 1981:103; Valli & Lucas, 1995:51; Yule, 1996:75). Examples of morphemes in English are *cat*, *tree*, *apple*, *un-*, *-ed* and *-s*, and examples of morphemes in SASL are DRIVE and CASUALLY in DRIVE-CASUALLY.

Words like *sleep*, *apple*, *close* and *travel* in English that cannot be broken down into smaller meaningful units are called monomorphemic (Sutton-Spence & Woll, 1999:99). SASL examples of monomorphemic words are SLEEP, APPLE, HOUSE and BROTHER. The number of syllables of a word in spoken language is not an

indication of the number of morphemes, thus, the words *letter* and *apple*, are monomorphemic. Likewise, the number of movements in a sign is not related to the number of morphemes in the sign. Therefore, the signs BROTHER, SPORT and MOTHER are monomorphemic although they consist of more than one movement.

Polymorphemic words consist of more than one morpheme and can be broken down into smaller units of meaning. Examples of polymorphemic words in English are *bedroom*, *traveller* and *reopened*. These words can be broken down into smaller meaningful parts: *bed* and *room*; *travel* and *-er* (meaning 'person who does something'), and *re-* (meaning 'again'), *open* and *-ed* (indicating past tense). While the *-er* in *traveller* and the *re-* and *-ed* in *reopened* do not have independent meanings, they do mean something, as indicated in the brackets (Sutton-Spence & Woll, 1999:90). Examples of polymorphemic words in SASL are STUDENT (it has the separate meanings LEARN and PERSON), BIBLE (it has the separate meanings JESUS and BOOK) and DRIVE-DANGEROUSLY (it has the separate meanings DRIVE and DANGEROUSLY).

In the previous chapter it was shown that in English /s/ is a phoneme (a contrastive unit, for example in the word *sit* in comparison with *pit*). In this chapter it will be demonstrated how the sound *s* can also be regarded as a morpheme (with meaning, as in plural *-s*, or third person singular *-s*). Likewise, the parameters in signed language can be thought of as being simultaneously phonemes and morphemes as they are distinctive features and they may have independent meaning in signs (Valli & Lucas, 1995:74; Johnston & Schembri, 1999:118). For example, the handshape 'B' is a phonological element with no meaning (as in MOTHER) and a morpheme (with meaning) as in the B-handshape that is used for vehicles (Sutton-Spence & Woll, 1999:158). Johnston & Schembri (1999:118) refer to these component aspects as 'phonomorphemes'. In the following sections a more precise classification of morphemes will be given.

#### 4.2.1 Free morphemes

Morphemes that can stand alone as independent words are called free morphemes (Akmajian *et al.*, 1984:58; Fromkin & Rodman, 1998:71; Sutton-Spence & Woll,

1999:101; Valli & Lucas, 1995:51). Examples of free morphemes in English are *man*, *table*, *glass*, *plant*, *desire* and *gentle*, and examples in SASL are MAN, TABLE, GLASS, PILL, FLOWER and CAT.

#### 4.2.2 Bound morphemes

Bound morphemes have meaning but cannot occur as independent units: they must be combined with at least one other (bound or free) morpheme (Akmajian *et al.*, 1984:58, Sutton-Spence & Woll, 1999:101; Valli & Lucas, 1995:51). Examples of bound morphemes in English are the *-er* in *smaller*; the plural *-s* in words like *cats*, and the *-s* indicating the third person, for example in *sits* and *eats*.

Sutton-Spence & Woll (1999:103,104) and Valli & Lucas (1995:51) explain that location, handshape, movement or non-manual elements of a sign can be bound morphemes in signed language. This principle can be applied to SASL as shown in the following examples. The non-manual element CASUALLY in DRIVE-CASUALLY cannot stand on its own to mean 'casually', it has to be combined with DRIVE, a free morpheme with a location, movement and handshape. The 3-handshape in THREE-WEEKS and THREE-MONTHS is another example of a bound morpheme in SASL. In YOU-ASK-ME (PRO.2-ASK-PRO.1) and I-ASK-YOU (PRO.1-ASK-PRO.2), one morpheme is the handshape, meaning ASK. I and YOU are not signed separately: they consist of locations and movements which cannot stand alone without a handshape, so they are bound. These bound morphemes cannot be independent but can be joined to a free morpheme or to another bound morpheme. Many bound morphemes in both English and signed languages contain grammatical information.

#### 4.3 Types of word formation processes

Human languages have the ability to create new words by conforming to certain rules. There are many ways in which new words can be added to a language (Valli & Lucas, 1995:51). The most important word-formation processes are derivation and inflection, although there are other processes, such as compounding.

### 4.3.1 Derivation

Derivational morphology is a common process whereby new words are created and/or the grammatical categories of words are changed with the use of derivational morphemes (Akmajian *et al.*, 1984:81; Fromkin & Rodman, 1998:97; Valli & Lucas, 1995:110,111). An example of derivational morphology in English can be found in the verb, *act*, that can be changed to a noun, *actor*, or an adjective, *active*. The semantically related verbs *react* and *activate* are created by the addition of derivational morphemes to the verb *act* (Klima & Beluggi, 1980:272). By adding *-ish* to the noun *boy* a new adjective is created. An example of derivational morphology in signed language is the derivation of nouns from verbs, which will be discussed in the next section.

#### 4.3.1.1 Related verb-noun pairs

In 4.1 it was stated that morphology is the study of how a language uses meaningful units to build new words. Verbs in English can be transformed into nouns through a process called affixation. This entails adding bound morphemes to other forms in order to create new words. For example, the suffix *-er* can be added to several verbs (*write, dance, walk*) to create nouns (*writer, dancer, walker*). Another way to form nouns from verbs is with the process of shifting stress from one syllable to the other. The only difference between the nouns *convict, subject* and *insult* and the verbs *convict, subject* and *insult* is that the stress falls on the first syllable when pronouncing the noun and on the second syllable when pronouncing the verb (Valli & Lucas, 1995:53).

It seems that the only difference between related nouns and verbs in signed languages is in the movement, since the handshape, location and orientation remains the same (Johnston & Schembri, 1999:137; Padden, 1998:43; Valli & Lucas, 1995:54). The following examples show that the same is true for related nouns and verbs in SASL (See Fig.3.4 (SIT and CHAIR) as example of a verb-noun pair in SASL):

**Verbs**

FLY

OPEN-BOOK

SIT

EAT

DRIVE

**Nouns**

AIRPLANE

BOOK

CHAIR

FOOD

CAR

According to Foreman *et al.* (1994:121-122) the verb and the noun in verb-noun pairs in SASL and ASL are related in meaning and form (that is, they have the same handshape, palm orientation, place of articulation and type of movement), as can be seen in all of the examples above. They differ either in directionality, repetition or manner of movement. Therefore, it is clear that it is the movement that is responsible for the difference in meaning between the verb and the noun. A different morpheme is not added, but rather the segmental structure of the sign is repeated. This process of repetition is called reduplication. Similar to the derivation of nouns from verbs in English, the morpheme in signed language is the process of reduplication (Newkirk, 1998:173; Valli & Lucas, 1995:55).

### 4.3.2 Inflection

Inflectional morphemes add grammatical information to words without changing their grammatical category. Inflectional morphology is the process where words are inflected to express grammatical contrast (i.e. to indicate number, tense, aspect, person, comparative, diminutives) (Akmajian *et al.*, 1984:81; Crystal, 1997:90; Fromkin & Rodman, 1998:97; Klima & Bellugi, 1980:272; Valli & Lucas, 1995:111; Yule, 1996:76,77).

Examples of inflectional morphology in English are words that are inflected to indicate plurality, such as *boys*, or gender, as in *actress*. Verbs, like *walk*, can be inflected to indicate tense and aspect, as in *he walked*, *he is walking*, *he walks* or whether a third person singular (*he*, *she*, *it*, *the man*) is performing the action, for instance *He asks mother* vs. *I ask mother*. New words have not been created in any of these examples, they are merely different forms of the same words (Crystal, 1997:90;

Fromkin & Rodman, 1998:97; Sutton-Spence & Woll, 1999:56; Valli & Lucas, 1995:111).

The inflectional processes in SASL, just like those in other signed languages, are entirely independent of English (or any spoken language, for that matter). Aspect and subject-object agreement are examples of inflectional morphology (Johnston & Schembri, 1999:143,144; Klima & Bellugi, 1980:273; Valli & Lucas, 1995:111). The duration of an action (aspect) can be changed in signed language by adding grammatical information to the verb. For example, the verb WALK can be changed to mean WALK-FOR-A-LONG-TIME by adding movement to the verb. Section 4.3.2.2.1 takes a look at how verbs can include information about the subject and the object of a sentence. As in English, new signs are not created by the use of inflectional morphemes, only grammatical information is added (Valli & Lucas, 1995:111).

#### **4.3.2.1 Pluralisation**

Different languages have different ways of indicating that there are more than one of something (Baker-Shenk & Cokely, 1994:361). Languages usually have number agreement rules that specify that in order to indicate plurality, certain other parts of the sentence have to 'agree' with the plurality. An example of a number agreement rule in English is when the verb has to 'agree' with the fact that the noun in the sentence is singular (*The small boy is sad*) or plural (*The small boys are sad*). Signed languages have several number agreement rules which, depending on the form of the sign, require that the noun, pronoun, classifier, adjective, and/or verb in a sentence must 'agree' with the fact that the subject or object in the sentence is plural (Baker-Shenk & Woll, 1994:361,362; Padden, 1998:43).

Plurals in English are made by adding a bound plural morpheme to a noun. For example, *-s* is the plural morpheme in *cats* and *-en* is the plural morpheme in *oxen*. Suppletion is also used to indicate plurality in English. Suppletion used to be a productive process, but both the singular and plural forms of those words have been taken up in the lexicon and have to be learned when acquiring English: *goose - geese*; *mouse - mice*; *tooth - teeth* (Sutton-Spence & Woll, 1999:105).



Several languages, including signed languages, make use of a form of repetition to indicate plurality (Yule, 1996:81). Nouns in signed language that are not body-anchored, for example, CHILDREN, PERSONS and HOUSES, may be repeated, each time in a different location. This repetition is a distributive bound plural morpheme that is added to the free morpheme, for example CHILD. The verb in the sentence can also be modulated to agree with the plurality of the noun. For example, if the signer teaches (or helps) many individuals separately (e.g. four children), the movements of the verb TEACH (or HELP) are signed with more deliberance and in different locations in the signing space (not more than four locations are signed) where every person has been placed previously in the sentence or conversation. An arc-shaped sweeping movement of verbs like TEACH, HELP and SUPPORT can indicate that there are more than four objects, but that they are seen as one group (Baker-Shenk & Cokely, 1994:377; Fernald & Napoli, 2000:17; Newkirk, 1998:173; Sutton-Spence, 1999:106).

Signs that are body-anchored can be pluralised if they are represented by a proform. A proform is a pointing sign that represents a previously mentioned object, person or place (proforms are discussed in more detail in section 5.3). The proform can then be repeated in different locations to indicate that there are more than one. For example, to pluralise singular signs, like BOY, GIRL and WOMAN, the sign is made and then the proform is repeated in the different locations that were previously allocated to the referents to indicate that there are that number of boys, girls or women in those locations. However, if the proform is articulated with a sweeping movement, it indicates that there are many of them, and the distribution is just a formal grammatical device (Sutton-Spence & Woll, 1999:107).

English has words like *sheep* and *fish* that do not have plural forms. The only way a speaker can indicate the number of sheep or fish that are referred to, is by using quantifiers like *one*, *two*, *ten* or *many*. Likewise, some signs in signed language (usually the ones that already have repetition in the singular form) are pluralised by the use of specific number signs (ONE, TWO, TEN) and nonspecific number signs (FEW and MANY). These number signs usually appear after the noun in SASL (Kyle & Woll, 1988:132; Sutton-Spence & Woll, 1999:105). Although Kyle & Woll (1988:132) and Sutton-Spence & Woll (1999:105) discuss this type of pluralisation

under morphology, it will be discussed as a syntactic feature of signed language, as it involves the order of signs in the sentence.

\_\_\_\_<sub>rep</sub>  
HE CAKE TWO BUY  
*He buys two cakes*

\_\_\_\_<sub>rep</sub>  
HE CAKE MANY BUY  
*He buys many cakes*

When the number is part of the sign, it is called numeral incorporation. This process involves the combination of bound morphemes to create new meanings. The concept of *two weeks* or *three weeks* can be expressed in signed language by changing the handshape of the sign from 1 to 2 or 3 in order to change the number of weeks referred to. The location, orientation and non-manual signals remain the same, as demonstrated in Fig.4.1 (Valli & Lucas, 1995:70). The sign TWO-WEEKS is made up of two bound morphemes (meaningful parts). One includes the segmental structure – the holds and the movement, and the location, orientation, and non-manual signal, meaning WEEK. The other bound morpheme is the handshape, which has the meaning of a specific number. When the two morphemes are produced together, the meaning of the sign is “specific number of weeks” (Frishberg & Gough, 2000:126; Johnston & Schembri, 1999:118; Sutton-Spence & Woll, 1999:106; Valli & Lucas, 1995:70-72). Other examples of SASL nouns of which the plurals are formed by the process of numeral incorporation, are YEAR, DAY, HOURS, and MONTHS.



Figure 4.1: An example of numeral incorporation

The process of numeral incorporation usually has a limit to how high the numbers can go. For the sign WEEK the handshape for WEEK can be changed from 1 to 9, but for number 10 and higher the sign is signed separately from the sign WEEK (Frishberg & Gough, 2000:127; Valli & Lucas, 1995:72). When the number sign is signed separately, the pluralisation is in the domain of syntax:

rep  
WEEK ELEVEN  
*Eleven weeks*

#### **4.3.2.2 Verb morphology**

Sutton-Spence & Woll (1999:108) claim that verbs in BSL contain much more morphological information than verbs in English. The same morphological information is provided by verbs in SASL, as will be illustrated by the examples that follow.

The subject and object in an English sentence can be indicated by means of pronouns and word order (syntax). The verb in an English sentence includes information about the subject, such as person and number (concord). Such an example in English is the verb *kisses* in the following sentence: *The girl kisses the puppy*. The *-s* after the word *kiss* indicates that the subject is third person singular and the subject and the object are indicated by the word order. Thus, there is subject-object agreement in this sentence.

Although this type of information is usually indicated morphologically in signed languages, word order is used to indicate the subject and object in sentences with plain verbs, e.g. ENJOY, LOVE, THINK, EAT, SLEEP, LIKE and DRINK (Padden, 1998:43; Valli & Lucas, 1995:83,91,97).

##### **4.3.2.2.1 Moving verbs**

Verbs in which movement and location are important and have independent meaning are called directional, moving or locative verbs. The direction of movement, palm orientation and location of these verbs can be modulated to indicate the subject(s) and

object(s) in sentences and to convey information about the subject(s) and object(s). For example, in the sentence PRO.1-GIVE-PRO.2 there would be no separate signs for PRO.1 and PRO.2 since the initial point (the indexed locus from where the verb stem moves) is the subject of the verb, and the final point is its grammatical object. If the sentence remains the same except that the direction of movement is reversed, the grammatical relations will be reversed. In the same way, the verb GIVE can express the meanings PRO.1-GIVE-PRO.2 (*I give you*), PRO.3-GIVE-PRO.1 (*He gives me*), PRO.3-GIVE-PRO.3 (*He/she gives him/her*), PRO.3-GIVE-PRO.2 (*He/she gives you*), and so on, depending on the direction of movement of the sign (Baker-Schenk & Cokely, 1994:257,268,342; Foreman *et al.*, 1994:120; Valli & Lucas, 1995:83,92-94,97). Other examples of moving verbs in SASL are WALK, CALL, GO, WELCOME, INVITE, FETCH, THROW, HAVE, HELP, SUPPORT and ASK.

Moving verbs should agree with the spatial locations of the persons, places, or things that the signer refers to. Verbs should also agree with the object by having the appropriate type and size of movement and/or handshape, e.g. PEN, BOOK (Baker-Schenk & Cokely, 1994:268).



PRO.1-GIVE-PRO.2



PRO.2-GIVE-PRO.1

Figure 4.2: Example of a moving verb indicating both the subject and the object

Some verbs, like TELL, THANK-YOU, HATE only include information about the object (and another sign is required for the subject), e.g. *He tells her* (Valli & Lucas, 1995:95,96). The initial point of these signs are body-anchored and the final point is in the signing space allocated to the object:

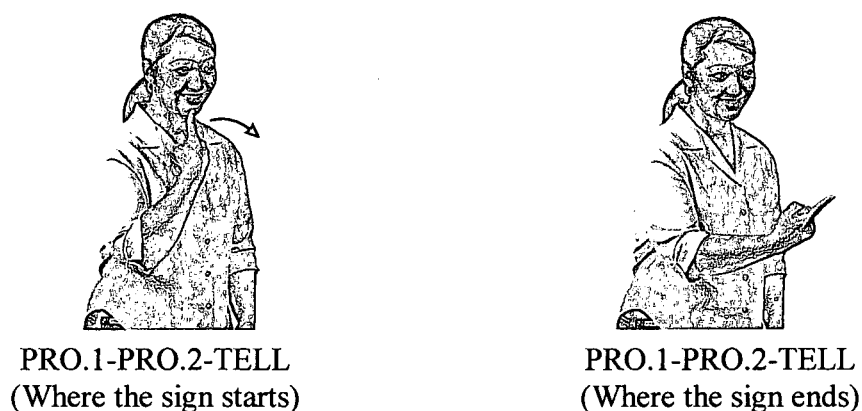


Figure 4.3: Example of a moving verb indicating the object only

#### 4.3.2.2.2 Time and aspect

Baker-Shenk and Cokely (1994:401) define tense as the actual time an event takes place, for example, present, future, and past; and aspect as the duration or frequency of an event.

Some languages, like English, can express time by using separate lexical items such as *tomorrow*, *yesterday*, and *soon*. English normally uses special morphemes to indicate time (adding the letters *-ed* to *walk* to form the past tense *walked*, for instance), changes within the form of the verb itself (*ring-rang*), or by a whole different form altogether (*go-went*). On a syntactic level, English can indicate tense via an auxiliary verb (*I will walk*) (Valli & Lucas, 1995:113,114).

Time in SASL, as in other signed languages, is expressed syntactically, but it will be discussed in this section for the sake of unity. Information about time is not to be found in every signed language verb as it is in every English verb. SASL uses time adverbs (e.g. YESTERDAY, NEXT-YEAR, TOMORROW) to indicate time at the beginning of a conversation. If a signer starts a sentence with the adverb LONG-TIME-AGO and signs a few sentences before using the adverb TODAY, all the events described between LONG-TIME-AGO and TODAY are understood to have occurred long ago and no further marking of time is needed. Other examples of time adverbs in SASL are NOW, UP-TILL-NOW, FROM-NOW-ON, MORNING (Akach, 1997: 28; Foreman *et al.*, 1994:121; Sutton-Spence & Woll,1999:53).

SASL, like ASL and BSL, uses space to describe time in terms of an imaginary time line that runs perpendicular to the signer's body; no further than the full extent of the arm in front of the body, passing just below the ear. The area near the signer's torso has a general meaning of 'present', the area in front of the shoulder has a general meaning of 'future' and the area over the shoulder has a general meaning of 'past'. A second time line is located in front of the body. This line is used to represent the time of day, the right representing the early hours of the day and the left representing the evening. A third time line is located in front of the dominant shoulder, at the hip, representing how children grow (Foreman *et al.*, 1994:121; Frishberg & Gough, 2000:123; Marschark, 1997:59,61; Valli & Lucas, 1995:114).

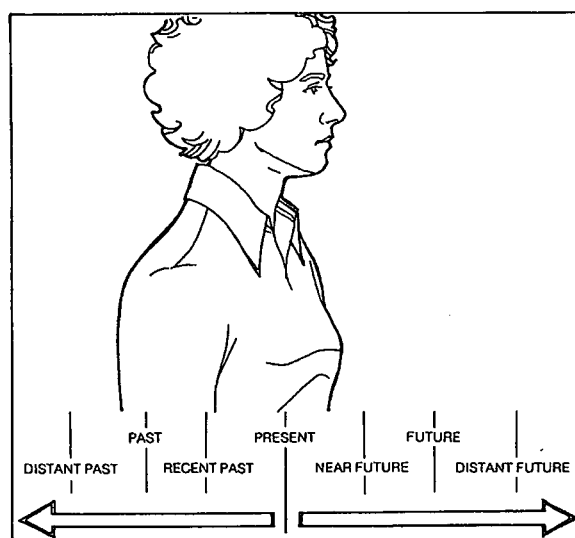


Figure 4.4: The time line (Baker-Schenk & Cokely, 1994:176)

Non-manual behaviours can also indicate time. For example, the concept of 'closeness to the present time' can be shown by raising and moving forward the shoulder, and raising the cheek and side of the mouth towards that shoulder. The more intense these behaviours are, the closer the meaning is to the present time (Baker-Schenk & Cokely, 1994:177,178; Foreman *et al.*, 1994:170; Wilbur & Patschke, 1999:3).

Verbs in signed languages can be modulated (usually via repetition) to indicate that an action is performed more than once (e.g. when the sign ONE-DAY is repeated to indicate that the action or event is continuing for a few days, or on a daily basis -

depending on the context of the conversation). If the verb TEACH is repeated, it means that the teaching occurs over a period of time, and the more intense the non-manual features, the longer the duration that the teaching takes place. The movement will also be a bit slower and with more emphasis (Fig.4.5). Verbs can also indicate that more than one person is involved in the action. In order to indicate that a group of people receives the single action of a single person, the verb will be articulated with a sweeping movement as in I-TEACH-THEM-ALL (see Fig.4.7). To indicate that a number of individuals each receives the single action of a single person, the verb will be articulated with repeated and distributive movement as in I-TEACH-ALL-OF-THEM (Fig.4.6) (Frishberg & Gough, 2000:128,129; Kyle & Woll, 1988:145; Sutton-Spence & Woll, 1999:108).



TEACH

(indicating a shorter period of teaching)



TEACH

(indicating a longer period of teaching)

Figure 4.5: Modulation of the verb TEACH to indicate aspect



Figure 4.6: Modulation of the verb TEACH to indicate that individuals each receive the single action of a single person



Figure 4.7: Modulation of the verb TEACH to indicate that a group of people receives the single action of a single person

According to Foreman *et al.* (1994:121) SASL, like ASL, makes use of the perfective marker FINISH to indicate the completion of a particular event or series of events, as in

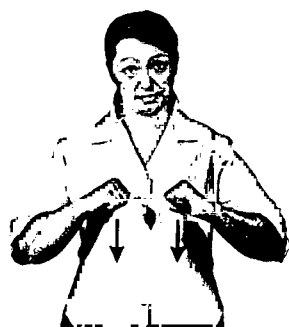
      n/m        
DOG EAT FINISH HE SLEEP meaning *The dog ate and then went to sleep.* The non-manual accompanying the sign FINISHED is raised eyebrows.

#### 4.3.2.3 Adjectival morphology

Adjectives in English are usually expressed syntactically and occur before the noun in a sentence, as in *tall man*, *pretty girl* and *red apple*. When adjectives in SASL are expressed on a syntactic level, the noun usually occurs before the adjective, as in (SHIRT WHITE, GIRL PRETTY). On a morphological level, adjectives can be incorporated into a noun in SASL, as in SMALL-BOX and LARGE-BOX (where the **size** is incorporated in the articulation of the nouns) or ROUND-BOX and NARROW-CORRIDOR (where the **shape** is incorporated into the noun). The size



and shape of the referent is indicated by the size and shape of the sign in the signing space (as indicated in Fig.4.8). However, some adjectives cannot be incorporated into the noun but have to be signed separately, e.g. SHIRT WHITE (Fig.4.8). Sometimes the meaning is changed when incorporating the adjective into the noun. In order to sign *big elephant* or *big bird* a separate adjective has to be used, otherwise the meaning could be *big trunk* or *big beak* (Sutton-Spence & Woll, 1999:52,110).



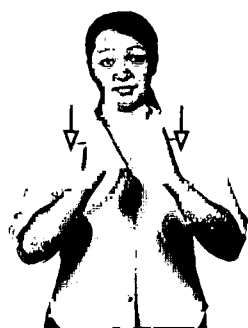
SHIRT  
(Where the sign starts)



SHIRT  
(Where the sign ends)



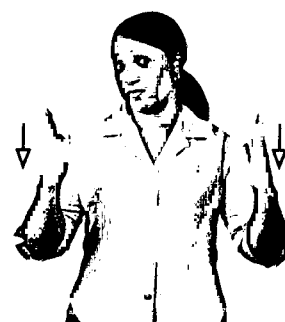
WHITE



CORRIDOR



NARROW-CORRIDOR



WIDE-CORRIDOR



BIRD



BIG

Figure 4.8: The indication of adjectives in SASL

If an adjective in SASL occurs in the verb phrase of a sentence, it acts like a verb in English and completes the sentence, as can be seen in the sentence MAN TALL (*The man is tall*). The reason is that SASL, like other signed languages, does not have the verb *to be*, so *The man is tall* is signed MAN TALL (Akach, 1999:70). These adjectives can even be modified in a way similar to that of verbs in English. For example, they can be inflected via changes in movement to show a certain characteristic of a person (Sutton-Spence & Woll, 1999:110-112).

The way in which a sign is repeated will also determine the meaning. In the sentence *He is frequently ill* the repeated movements are signed deliberately with pauses in between the movements to indicate that the action occurs frequently (or regularly). To indicate the duration or intensity of the action, as in *Ill for a long time*, the sign is held for a longer period and with more intense non-manual behaviours.

rep  
HE ILL  
*He is frequently/regularly ill*  
*He is ill again and again and again*

fb  
HE ILL  
*He has been ill for a long time*

Adjectives in signed language can also be inflected to show intensity. One way is to use an extra bound morpheme together with the non-manual features. This takes the form of a long, tense, initial hold, followed by a very rapid release to a final hold, e.g. HOT vs. VERY-HOT and WHITE vs. VERY-WHITE (Sutton-Spence & Woll, 1999:110-112).



Figure 4.9: WHITE vs VERY-WHITE

Degrees of comparison in signed language, like English, are shown by means of inflectional morphology. English usually indicates comparison with suffixes: *-er* for comparative (*happier*) and *-est* for superlative (*happiest*). On a syntactic level comparison in English can also be indicated with a separate word as in *more beautiful* (comparative) and *most beautiful* (superlative). Comparisons of adjectives in SASL are indicated with non-manual behaviour incorporated into words (morphological). The non-manuals are more intense when indicating the superlative, than the comparative, as can be seen Fig.4.10 below.

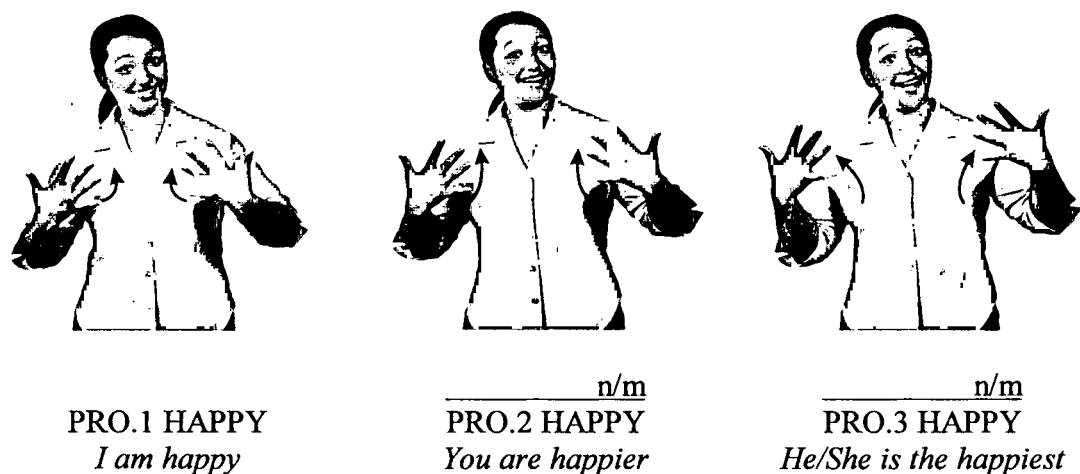


Figure 4.10: Degree of comparison indicated with non-manual signals

#### 4.3.2.4 Quality

Quality refers to the intensity or size of the referent. Quality in English is indicated by changing the tone of voice or by adding words like *very*, *really* and *a little* to adjectives (*very big*, *a little sad*, *really long*) (Kyle & Woll, 1988:150,151).

Kyle & Woll (1988:151) describe how quality can be indicated in ASL by a combination of manual and non-manual features. SASL indicates quality by modifying verbs, nouns and adjectives by adding specific mouth and eyebrow movements to the manual movements. A verb like WALK can be modified to mean 'walking with ease' or 'walking with great difficulty' simply by changing the non-manual features. The size and/or shape of a noun, like TABLE, BOX, CORRIDOR,

HOUSE, BALL can be indicated by the actual size and/or shape of the sign in the signing space just as quality can be added by using non-manual features (see Fig.4.8).

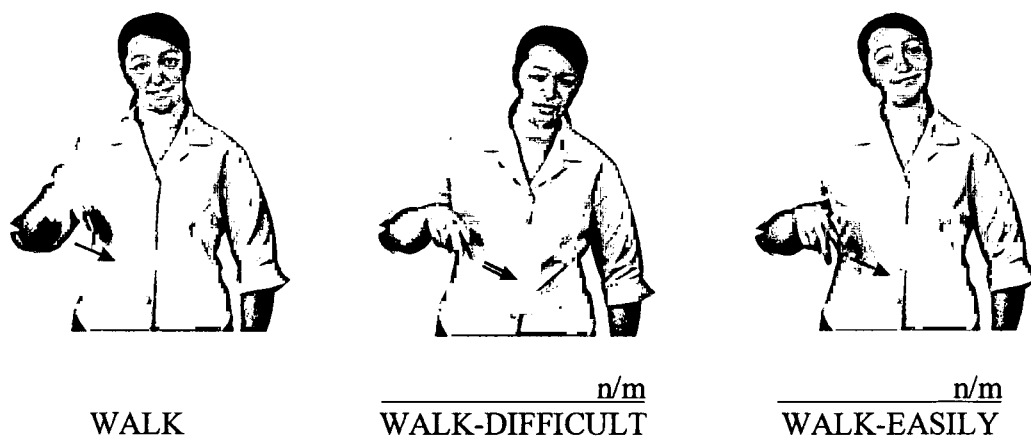


Figure 4.11: Verb modified with non-manuals

#### 4.3.2.5 Classifiers

All natural signed languages have a group of handshapes that are used in particular ways to represent the location and/or movement as well as the shape, size and texture of objects or people. The palm orientation and movement of classifiers often vary to represent different things or to describe certain actions or characteristics of the referent (Baker-Shenk & Cokely, 1994:321; Cogill-Koez; 2000:154; Valli & Lucas, 1995:77).

A classifier can function as a noun, a pronoun or a verb, and it can convey information about the manner and location of an action as well as the physical characteristics and location in space of an object, by making use of a particular handshape with a particular palm orientation (Baker-Schenk & Cokely, 1994:287). Classifiers can indicate the spatial relationship between two or more referents by placing them in a certain location (meaning 'is there'), or can be moved as a verb toward a certain location (meaning 'goes there'), or moved in a certain location (meaning 'does something there') (Baker-Shenk & Cokely, 1994:336). The appropriate choice of classifier handshapes are also influenced by the signer's perception of the actual features of the referent (e.g. size, shape, texture), as well as

the signer's choice of what to focus on, for example the movement of people or the fact that there are people everywhere (Baker-Schenk & Cokely, 1994:305,308,317).

Sentences have two major components: subjects and predicates. (See Chapter 5 for a more detailed explanation of subjects and predicates.) Classifiers are the handshapes that are combined with location, orientation, movement, and non-manual signals to form a predicate (Valli & Lucas, 1995:77). Classifier predicates are composed of a movement root and a classifier handshape, and their location represents a location in three-dimensional space (Valli & Lucas, 1995:83). The handshapes in classifier predicates represent the whole entity (object) and they may convey additional information such as the surface, depth and width, extent, perimeter shape, and the instrument used for a particular action (Valli & Lucas, 1995:84).

An example of a noun classifier in SASL is the hand, with fingers extended and together, that is found in many signs referring to flat wide objects: FLOOR, DOOR, TABLE, BOX SIDES, CORRIDOR, FEET, CAR. Signs with index and middle fingers extended and spread refer to objects with two straight extensions: LEGS, SNAKE (its tongue), SCISSORS, GAZE (figurative extension based on rays extending from the eyes) (Kyle & Woll, 1988:135).

Just as the English pronoun *she* can represent a certain group of nouns, (those nouns that refer to female persons, like *woman* and *waitress*), some classifiers can also represent a particular group of nouns, for example, the bent V-handshape can represent a person's legs. (Baker-Schenk & Cokely, 1994:287). Just as the particular referent (like *woman*) has to be identified before its pronoun may be used, the noun that the classifier represents (for example, *my brother's legs*), should be fingerspelled or signed before the classifier is used to represent the noun (Baker-Schenk & Cokely, 1994:287). These (classifier) pronouns in signed language convey more specific information than the pronouns in English do. For example, the English pronoun *it* can refer to a car, a pen, a tree, a book or an apple. However, in signed language a different classifier is used to represent each of the different objects, incorporating information about its location, size and shape (Baker-Schenk & Cokely, 1994:289).

Classifiers can function as verbs (Baker-Schenk & Cokely, 1994:289). Examples in SASL are SEARCH, LOOK, WALK, DRIVE. Classifiers can also function in the same way that adverbs do in English, because they can convey information about the 'manner' of an action (Baker-Schenk & Cokely, 1994:289). For example, the way in which the walking movement occurs conveys the meaning of how a person is walking, e.g. walking *with ease* or *limping*, or *quickly* or *slowly* (Fig.4.11).

The verb must 'agree' with the type of noun phrase in the topic position. For example, where there is a person noun phrase in topic position in the sentence, the handshape of the classifier predicate must in some way be associated with the person noun phrase. In the same way, if an animal noun phrase occurs in the topic position, the verb must contain a classifier that is associated with that animal. Where there is a non-living object in the topic position, the verb must contain a classifier associated with that object and the type of classifier (size and shape) must agree with the object, e.g. PEN or BOOK (Aarons & Morgan, 2000:4).

The distinctive parameters of classifiers are also handshape, orientation, location and movement. Although each of these is meaningless in itself (on a phonological level), changing a parameter in a classifier predicate produces meaningful changes, e.g. the object is tall and thin, not tall and wide; the animal faces this direction, not that direction; the cup is placed here, not there (Cogill-Koez, 2000:158,168,169).

The majority of classifiers are singular – they represent the location and/or movement of one person or thing. In order to represent more than one person or thing, the signer can use both hands, each hand representing one thing (meaning 'two things'), or the signer can use both hands with alternating movements (meaning 'things in a disorderly arrangement'), or use both hands with a repeated or 'sweeping' straight-line movement meaning 'several' or 'many', 'things in a row' or 'things in rows') (see Fig.4.6 & Fig.4.7) (Baker-Shenk & Cokely, 1994:308).

Another way the signer can indicate plurality is to add repetition to the singular classifier. The classifier has to be articulated (signed) in a different location with every repetition. The different locations should reflect the real-life locations of the objects, or the locations where the objects have been previously placed in the signing

space (Baker-Shenk & Cokely, 1994:363). The speed of the repetitions can be used to indicate the number of objects the signer is referring to. For example, to indicate A-LOT-OF-BOOKS, the classifier can be repeated at a faster pace. If the referents are arranged in an *orderly* configuration, for example 'in a row', the classifier will be repeated in a straight line. The non-dominant hand can even 'hold' the classifier handshape at the starting place of the line while the dominant hand makes each separate 'articulation' of the classifier in the different locations (Baker-Shenk & Cokely, 1994:297).

The non-manual features can also influence the indication of plurality. For example, to indicate a crowd of people, the signer will use both hands with extended B-handshape. When the crowd is very big, the same sign will be produced, but with accompanying non-manual facial behaviour consisting of puffed cheeks, lips 'blowing' air and widened eyes.

Plural classifiers can combine the number signs e.g. '2', '3', '4' or '5' to represent a specific number of referents (Baker-Shenk & Cokely, 1994:301). For example, from one to five specific individuals can be represented on each hand, where each upright finger represents a person. However, when both hands (with either the '4' or '5' handshape, fingers upright) are used together, they represent a group of many individuals (Baker-Shenk & Cokely, 1994:303; Cogill-Koez, 2000:158).

### 4.3.3 Compounding

Spoken as well as signed languages use compounding to enlarge the vocabulary of the language. A compound is a new word created by combining two or more words (i.e. free morphemes) (Fromkin & Rodman, 1998:84,86; Johnston & Schembri, 1999:174; Sutton-Spence & Woll, 1999:102; Valli & Lucas, 1995:51,61). This new word has a new meaning, although the meaning is usually related to the two original words (Johnston & Schembri, 1999:174; Sutton-Spence & Woll, 1999:102; Yule, 1996:65). Examples of English compounds are *icebox*, *spaceship*, *wastebasket*, *doorknob*, *greenhouse* and *sunburn*. SASL also creates new signs by putting together signs that already exist in the language, for example:

MOTHER + FATHER = PARENTS

LECTURE + PERSON = LECTURER

STUDY + PERSON = STUDENT

TOOTH + DOCTOR = DENTIST

OLD + MOTHER = GRANDMOTHER

The two separate words usually undergo some changes when they combine to form a compound (Baker-Schenk & Cokely, 1994:110; Valli & Lucas, 1995:57,58,61). In English, the pronunciation of the compound is different from the pronunciation of the separate words. The stress usually occurs on the first word of the compound, and the stress on the second word is often reduced or lost, as is the case in all the examples listed above (Johnston & Schembri, 1999:174; Valli & Lucas, 1995:57). Compounds in SASL take less time to produce than the separate words, because the movement blends together in the transition from the first sign to the next. Reduction also occurs as the first sign loses stress and both the first and second signs lose repetition (Sutton-Spence & Woll, 1999:102).

#### **4.3.4 Borrowing**

Another way to enlarge the vocabulary of a language is to borrow words from other languages. This happens when two or more languages are in contact with each other. The minority language, or the language with less status, tends to borrow more words from the majority language, or the language with more status, than the other way around (Valli & Lucas, 1995:51).

Signed languages also borrow words from spoken languages by using the manual alphabet to represent the letters of a borrowed word. The separate signs of fingerspelling blend together and become like one individual sign. When an item is frequently fingerspelled it becomes lexicalised and is considered to be part of the established lexicon of the language. This process is called lexicalisation. Lexicalised fingerspelled words are changed to follow the rules of other signs in the language. Similar to the way spoken languages change borrowed words to fit the phonology and morphology of the language, fingerspelled words from the spoken language are also changed in signed languages to take on the structure of the signed language. (Baker-



Shenk & Cokely, 1994:116; Johnston & Schembri, 1999:135; Padden, 1998:40,56; Valli & Lucas, 1995:67). SASL examples of fingerspelled loan signs are #IF, #TV and #OK.



#IF

(How the sign starts)



#IF

(How the sign ends)

Figure 4.12: #IF as example of lexicalised fingerspelling. This particular example is always accompanied with the non-manual facial behaviour for a conditional sentence.

Signed languages borrow from other signed languages as well, such as the names of countries (Valli & Lucas, 1995:68). SASL has borrowed the names of countries like JAPAN, ITALY, CHINA and AUSTRALIA from other signed languages. Other borrowed signs in SASL that are used by the Deaf in certain regional varieties in South Africa are MOTHER, FATHER and WATER.

#### 4.4 Conclusion

This chapter has focused on morphemes and the way they combine to form words. Different ways of forming new words by conforming to certain rules, were demonstrated. It was shown that the morphological processes of signed languages, in particular ASL and SASL, differ from the morphological processes in English and other spoken languages, which tend to add bound morphemes to the beginning or end of words (affixation) or to change the stress of the word. Signed languages, on the other hand, make use of internal inflection, which usually occurs in the form of reduplication. This is done by repeating or changing the segmental structure of the original form, while keeping parts of that form, e.g. the handshape, location, and orientation. Reduplication is a very important feature of signed languages that is used

a great deal to indicate plurality, aspect, related verb-noun pairs, and so forth. Inflectional morphology in SASL that is used to indicate such features as aspect, number and quality can also be indicated by the use of non-manual behaviours. The use, pluralisation and non-manual components of classifier handshapes were discussed. Compounds are almost the only example of external modification of morphemes in signed languages.

Signed languages are heavily inflected languages in that they contain a lot of information in a single sign. Consequently, some phenomena that are represented syntactically in English (like the indication of the subject and object via word order), occur morphologically in signed languages. Some phenomena, like pluralisation, occur both on a morphological and syntactic level.

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## CHAPTER 5

### SYNTAX

#### 5 Overview

In the previous chapter it was shown how grammatical relations can be expressed via changes in word forms. This chapter focuses on the interrelationship between words in a sentence. Section 5.1 defines syntax and 5.2 the different grammatical and syntactic categories. Proforms are explained in 5.3. In 5.4 the different ways of determining grammatical relations among lexical items are discussed, followed by the different types of SASL sentences. Agreement between the parts of a sentence is discussed in 5.6.

#### 5.1 Defining syntax

Syntax is the study of the way that different words or signs are put together to create meaningful phrases and sentences (Akmajian *et al.*, 1984:4; Crystal, 1997:94; Electric Library, 2001; Sutton-Spence & Woll, 1999:41). Fromkin & Rodman (1998:106, 110,111) explain that knowledge of the syntax of a language will enable speakers to form grammatical sentences, that is, sentences that conform to the rules of syntax. The grammaticality of sentences, word order, grammatical relations between words, and the creative aspect of language are all determined by syntactic rules.

#### 5.2 Grammatical and syntactic categories

The grammatical categories are traditionally called the parts of speech. The standard parts of speech are nouns, pronouns, verbs, adjectives, adverbs, prepositions, conjunctions, and interjections. Collins English Dictionary (1999:xvii) lists determiners as less traditional parts of speech and mentions that determiners replace the traditional classification of demonstratives, numerals and articles.

Languages usually have two classes of words: open classes (consisting of content words) and closed classes (consisting of function words) (Akmajian *et al.*, 1984:65;

CED, 1999:xvii). The open classes are nouns, verbs, adjectives and adverbs. New words are added to these classes to refer to new objects, new terminology or new issues. A word in an open class can be changed to belong to another grammatical category by derivational processes. For example, the English verb, *act*, can become a noun, *actor*, and the SASL verb, DRIVE, can become a noun, CAR. New words are almost never added to closed class words like determiners, pronouns, prepositions, conjunctions and interjections (Leech, Deuchar & Hoogenraad, 1982:41,42). This distinction between open and closed classes is applicable to signed languages as well.

### 5.2.1 Nouns

A noun is a word that names 'things' like people (also proper names), places, abstract ideas, objects, qualities, conditions or creatures (Akmajian *et al.*, 1984:60; Johnston & Schembri, 1999:132; LaPalombara, 1976:24; Yule 1996:88).

Examples of nouns in English:      *Mary, Table Mountain, fear, scissors, courage, parliament, crew and dog*

Examples of nouns in SASL:      MARY, TABLE MOUNTAIN, FEAR, SCISSORS, COURAGE, PARLIAMENT, CREW and DOG

The examples above provide evidence that the same type of words belong to the grammatical category, noun, in both English and SASL.

### 5.2.2 Pronouns

As previously mentioned, a pronoun is a word that can replace a noun, and may only be used after the noun has been identified in the sentence or conversation (LaPalombara, 1976:24; Valli & Lucas, 1995:99; Yule 1996:88). Pronouns include first person (*I* in English; PRO.1 in SASL), second person, (*you* in English; PRO.2 in SASL) and third person (*he, she* or *it* in English; PRO.3 in SASL). There are different types of pronouns: personal pronouns (*I* in English; PRO.1 in SASL), possessive pronouns (*mine* in English; POSS.1 in SASL), reflexive pronouns (*myself* in English;

SELF.1 in SASL) and relative pronouns (*whose, which, that* in English; 'pointing' at personal pronoun in SASL).

Examples of English sentences with pronouns: *He came home early* and *She gave it to us*

Example of SASL pronouns in sentences: **PRO.3 HUNGRY**  
*He/She is hungry*

Pronouns in signed language are produced by pointing at the person, thing or place (it can be the "real thing" or the "location" in the signing space where the signer has placed the person, place or thing previously in the conversation). In SASL personal pronouns are indicated using the index finger. Possessive pronouns (MINE; YOURS) have the same location (and movement) as personal pronouns, but are articulated with the A-handshape, the palm facing the referent(s). Reflexive pronouns involve the movement of the Index finger-handshape, starting from the position of the personal pronoun, moving the fingertip upwards. A relative pronoun is produced by pointing (indexing) at the person or at the place in the signing space that was allocated to the person, accompanied by the non-manual markings associated with indexing, as in BOY HE RUN HE FAST (*The boy is running. He is fast.*)



PRO.1



PRO.2



POSS.1



POSS.2

SELF.1  
(Where sign starts)SELF.1  
(Where sign ends)SELF.2  
(Where sign starts)SELF.2  
(Where sign ends)

Indexing (pointing)

(in this case used to indicate the relative pronoun)

Figure 5.1: Pronouns for first and second person

There are a few differences and similarities between pronouns in English and signed language, in particular SASL. Pronouns in English indicate gender (*he/she*), but in third person in signed language no distinction is made between male and female (Valli & Lucas, 1995:99). Another difference is that English shows a distinction between the object pronoun (*him*) and the subject pronoun (*he*) as in sentences like *He phoned him*. Many other languages, including signed languages, have no difference between the pronouns for subjects and objects (in the manual component), but rather in the sequence of signs, for example PRO.1-ASK-PRO.2 (*I ask you*) (Sutton-Spence & Woll, 1999:56; Valli & Lucas, 1995:99). Number differences can be indicated in signed language pronouns. For example, if PRO.2 refers to two people, the V-handshape is used, if PRO.2 refers to three people, the F-handshape is used, moving back and forth between the three referents. Location is used in pronouns in signed language. For example, in the sentence PRO.1-GIVE-PRO.2 (*I give you*), the location of each of these pronouns determines the meaning of the sentence (Valli & Lucas, 1995:75).

In a morphological frame, some numbers can be incorporated into pronouns, as in WE-THREE LEAVE (*We are leaving*) (see numeral incorporation in 4.3.2.1). However, five seems to be the limit when incorporating numbers into pronouns. Pronouns can also be incorporated into agreement verbs, e.g. PRO.2-GIVE-PRO.1 (*You give me*). This is another example of a morphological frame, as was discussed in 4.3.2.2 (verb morphology).

The direction of a signer's eye-gaze (eye-indexing) is important for understanding who or what the signer is referring to. A signer's eye-gaze (often accompanied by a slight brow raise and a head nod or tilt toward the referent) towards someone or something will change the meaning of a pronoun. For example, if the signer in Fig.5.2 is looking at b and pointing to b, the meaning of the pronoun is *you*. But if the signer is looking at b and pointing at c, the meaning is *him/her*. These non-manual behaviours can also function as pronouns when no pronoun is used. For example, while talking to b, the signer can look at and nod toward c, d, or e to mean *he* or *she*. This type of indexing is used when a signer wants to be discreet (Baker-Shenk & Cokely, 1994:214,206; Liddell, 1980:5).

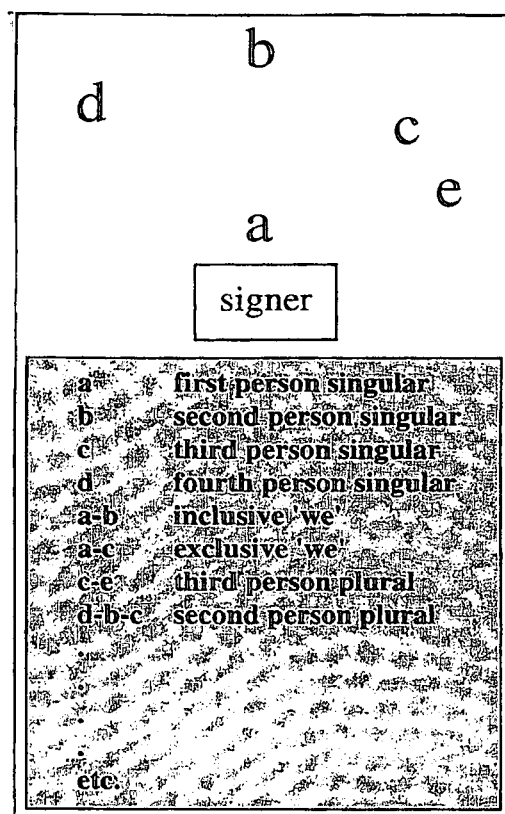


Figure 5.2: Conventionalised locations for pronouns (Foreman *et al.*, 1994:119 (based on Kyle & Woll, 1985))

### 5.2.3 Verbs

A verb is a word or group of words that is used to describe an action (*run, jump*) or state of being (*be, seem*) and forms the main part of the predicate of a sentence (Akmajian *et al.*, 1984:60; CED, 1999:1305; LaPalombara, 1976:25; Yule, 1996:88). Examples of verbs in English are *eat, think, and walk*, while EAT, THINK, WALK are examples of SASL verbs.

Auxiliary verbs (*be, have, do*) are used with other verbs to form tenses, questions, negatives and passives. Tenses are forms of verbs that show time relations. There are future, present and past tenses. These can be simple (*will work, works, worked*), progressive (*will be working, is working, was working*) or perfect (*will have worked, has worked, had worked*). Time in SASL, as in other signed languages, is indicated at the beginning of a sentence or conversation.



Verbs in signed languages can use spatial locations to show who is doing something (the subject) or who is receiving the action. For example, by alternately changing the direction of movement of the verb GIVE, one can express the meanings *I give you*, *I give him/her*, *You give me*, *You give him/her*, *S/he gives me*, or *S/he gives you*. This phenomenon was discussed in more detail in 4.3.2.2 on verb morphology. Agreement of verbs will be discussed in 5.6.

#### 5.2.4 Adjectives

An adjective is a word or word group that provides more information about nouns and pronouns (Akmajian *et al.*, 1984:60; LaPalombara, 1976:26). Examples of adjectives in English are *happy people*, *delicious food*. Although adjectives in English are expressed on a syntactic level, adjectives in SASL can be expressed syntactically, as in GIRL SKINNY, or morphologically, when they are incorporated into the sign, as in NARROW-CORRIDOR. When signing NARROW-CORRIDOR, the sign for corridor will be signed 'thinner' than usual, accompanied by the appropriate non-manual behaviours. The more intense the non-manuals, the more narrow the corridor, as indicated in Fig.4.8.

Adjectives are also used to indicate degree of comparison (Degree of comparison was discussed in 4.3.2.3).

#### 5.2.5 Adverbs

An adverb is a word or word group that provides more information about verbs, adjectives or other adverbs (Akmajian *et al.*, 1984:60; LaPalombara, 1976:26). Examples of adverbs in English are: *He walks fast*, *Please stand there*, *Her father was highly indignant*). Adverbs in signed language can be expressed on a morphological level via non-manual behaviour, like the CARELESSLY in CARELESSLY-DRIVE, the CAREFULLY in CAREFULLY-DRIVE, the DIFFICULT in WALK-DIFFICULT and the EASILY in WALK-EASILY (see Fig.4.11). Adjectives can also be expressed syntactically with time adverbs like TODAY in the sentence TODAY PRO.1 WORK START (*I start working today*).

### 5.2.6 Prepositions

Prepositions are the linking words that show relationships between nouns and predicates or pronouns. Prepositions help nouns and pronouns to fit into sentences. Put another way, prepositions provide information about time (*at five*), location (*on the table, in the room*), direction (*toward the mountain, from Durban*) and other connections involving actions and things (*He cut the bread with a knife, death by fire*) (Akmajian *et al.*, 1984:60; LaPalombara, 1976:27). English has many prepositions such as *under, on, in, above, with* and *to*. Examples of English sentences with prepositions are: *The cat is lying under the bed; The train goes through the tunnel; I'm glad about your new job.*

Signed languages do not have as many prepositions as spoken languages, in this case English, as they make use of the signing space to indicate the relationships between people, things, places or events. This is done with classifier predicates, agreement verbs and the index finger pointing to mean 'at'. Often the prepositional relationship is incorporated into the structure of the classifier predicate or agreement verb. This use is morphological. However, there are a few locative signs such as, IN, OUTSIDE, OPPOSITE-FROM, UNDER, FAR, NEAR, often used to emphasise these locative relationships. Locative signs do not have definite locations, but are determined by the type, size and placement of the referents (Baker-Shenk & Cokely, 1994:347; Valli & Lucas, 1995:125).

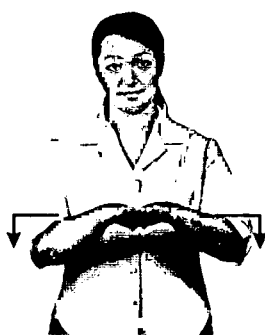


TABLE  
(where the sign starts)



TABLE  
(where the sign ends)

Placing the TABLE in the signing space

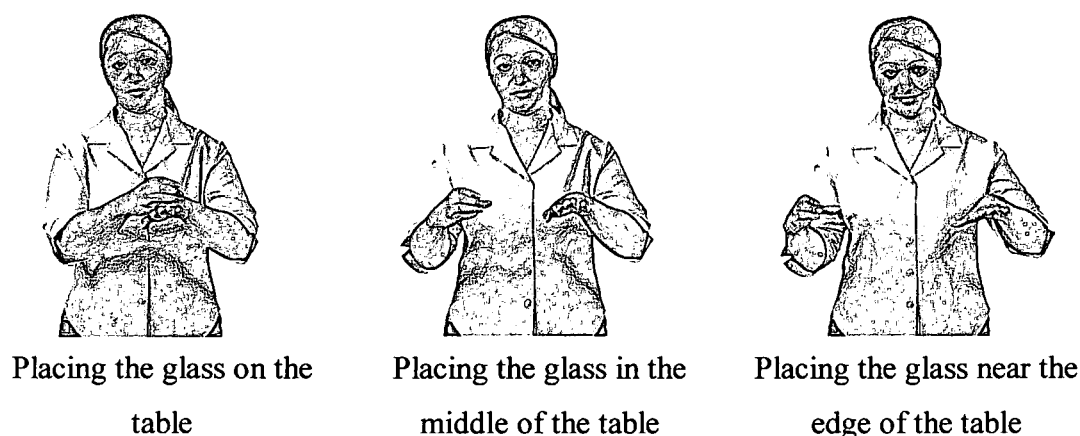


Figure 5.3: Demonstrating the appropriate placement of locative signs

The first noun, in this case TABLE, is allocated a specific place in the signing space, followed by the articulation of the second noun, GLASS. The classifier handshape for the glass is used to indicate the location of the glass in relation to the table. The glass should be placed 'on top' of the imaginary table (exactly where the table was placed in the signing space) (see Fig.5.3). Another example is CAR BRIDGE-UNDER, meaning *The car is under the bridge*.

### 5.2.7 Conjunctions

A conjunction is a word or word group that connects sentences. It connects and indicates relationships between events and things (Yule, 1996:88). Examples of conjunctions in English are: *and, because, however, until, yet, since, but, although, if*. *He ate **although** he was not hungry and he passed his exam **because** he studied very hard*, are examples of English sentences containing conjunctions. WHY (meaning 'because') (Fig.3.6), BUT, AND, PLUS are examples of conjunctions in SASL. WHY meaning *because* has neutral facial expressions (LaPalombara, 1976:27; Valli & Lucas, 1995:127). Examples of sentences in SASL that are connected with conjunctions are:

PRO.1 TIRED WHY ME WHOLE-NIGHT STUDY

*I am tired. Why? I studied the whole night*

*I am tired because I studied the whole night*

\_\_\_\_br  
PRO.3 YOUNG BUT PRO.3 ILL

*He/she is young, but he/she is ill*

### 5.2.8 Deictic signs

Speakers and signers both make use of deictic gestures in order to make clear to their addressees that the entity being described in the grammatical construction is present. Not only does the gesture show that it is present, it identifies the actual entity being described. This statement applies equally to spoken and signed languages (Liddell, 2000:354).

Johnston & Schembri (1999:137) define a deictic in signed language as a “pointing sign which is indexically related to its referent (i.e. that which it points at) which is usually a thing or location in the signing space”. They also mention that the referent may be real, imagined or metaphorical in some way. Deictic signs are made with the extended index finger, or in more formal situations or in public speaking with the fingertips of the extended flat hand (palm usually up).

Simple deictics refer to, or specify, participants in the text (pronouns, demonstratives, locatives and parts of the body). Complex deictics differ from simple deictics in handshape and orientation. Complex deictics combine participant reference with possession (possessive pronouns) or reflexiveness (reflexive pronouns). Possession is indicated by a fist (A-handshape), and the palm facing the referent (Johnston & Schembri, 1999:137).

### 5.2.9 Determiners

Determiners help to indicate which object is being referred to. Deictic determiners refer to referents that are physically present, and anaphoric determiners refer to referents that are not actually present (CED, 1999:27; Valli & Lucas, 1995:325). Determiners in English include possessives (*my, your*), demonstratives (*this, that, these, those*), quantifiers (*some, any, other, none, few, much, several, enough*) and articles (*a, an, the*). Articles can indicate whether the noun referred to is a specific

noun or any member of a particular class of nouns. Natural signed languages do not have equivalents for articles in their lexicons (Akmajian *et al.*, 1984:60; Valli & Lucas, 1995:101).

Demonstratives in signed languages are pointing signs produced with the index finger. They are used to point at the physical referent(s) such as *this*, *that*, *these*, and *those*. If the intended referent is not present, the signer will allocate a place in the signing space to the person/object and then point at the specific location. In ASL demonstratives always occur with a noun, and may occur before, after or simultaneously with the noun (Valli & Lucas, 1995:102). However, in SASL the noun is usually signed first, followed by the determiner, as in GIRL det SKINNY meaning *This girl is skinny*. Determiners are glossed as *det*, and can be interpreted as meaning *this* in English.

#### **5.2.10 Interjections**

Interjections are words or remarks expressing emotion. They are characteristically used in syntactic isolation and usually express sudden emotion (CED, 1999:801). Examples in English are *Really!* and *Finally!*

Johnston & Schembri (1999:132) explain that interjections in signed languages also express reactions of the signer to what is being said or done. Much like interjections and exclamations in English, they often interrupt or acknowledge the comments of the interlocutor. When functioning as interactives, words cannot be combined with other interactives (or gestures), as they are sentences in themselves.

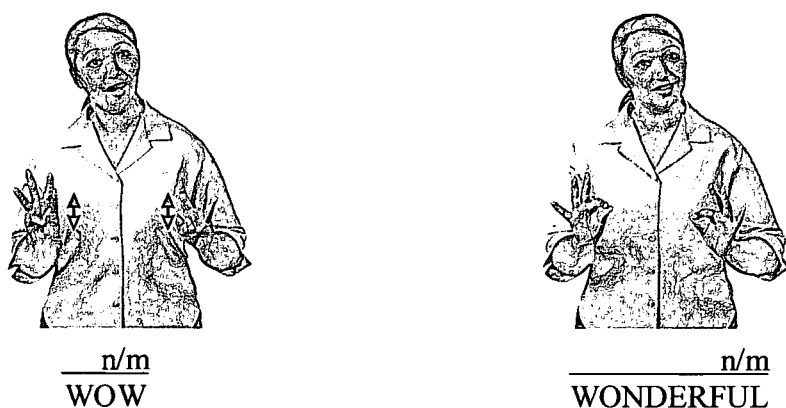


Figure 5.4: Examples of interjections

### 5.3 Proforms

In order to understand the syntax of signed language, it is important to understand what proforms are, and why and how they are used. A proform is one of the pointing signs in signed language. Just as a pronoun stands in the place of a previously mentioned noun, a proform is any form that represents some other form. A proform is the point in space rather than the pointing gesture. Proforms also function as pronouns. Proforms are used to achieve all pronominal, most locative and some temporal references. The pointing sign merely functions as an indicator, rather than a lexical item (Sutton-Spence & Woll, 1999:41; Valli & Lucas, 1995:322).

To use a proform, signers establish a referent by using the full sign in particular locations in the signing space and then the pointing sign (proform) to refer to the referents. Proforms vary depending on the shape and size of referents. Proforms are particularly important for signed languages because signed languages are spatial languages that move signs in space. In order to sign '*The car goes under the bridge*', 'car' and 'bridge' come in twice, as a sign and as a classifier (Valli and Lucas, 1995:322). The identification may have been made using a sign for the referent; for example, the sign CAR has a related proform (B-handform) that is used to provide more information about the locations of the car and the action it is involved in (Sutton-Spence & Woll, 1999:41).

#### 5.4 Ways of determining grammatical relations among lexical items

All languages have syntactic rules that determine the way words or signs combine in the language to form sentences (Baker-Shenk & Cokely, 1994:36; Fromkin & Rodman, 1998:111). It is important to have these rules, since the meaning of the sentence could easily be lost if the words are not combined according to the syntactic rules of the language (Sutton-Spence & Woll, 1999:41). Every language has its own set of rules for the combination or order of words (Sutton-Spence & Woll, 1999:50). That is, languages have different ways of indicating, for instance, the object and the subject in the sentence (Baker-Shenk & Cokely, 1994:247).

Languages are categorised according to three main elements: the subject (S), the verb (V) and the object (O). Different languages order the three basic elements (S,V,O) differently. Information about which word is the subject or the object can be given through inflectional morphology, the form of the word and word order. Highly inflected languages such as Latin, Quechua, and Navajo, as well as signed languages, can contain a great deal of grammatical information in a single word and they rely less on word order to show the relationship between the subject and the object (Sutton-Spence & Woll, 1999:56,57).

In languages like English, Afrikaans, Mandarin, Chinese, and Vietnamese word order is an important grammatical signal that indicates the grammatical role or relations (e.g. subject, object) of the words in sentences (Akmajian *et al.*, 1984:167; Baker-Shenk & Cokely, 1994:31; Foreman *et al.*, 1994:118; Sutton-Spence & Woll, 1999:57). English follows an SVO order (Sutton-Spence & Woll, 1999:57). The difference in word order is responsible for the difference in meaning, as in the sentences *Jane smiled at Mary*, where only word order tells us who smiled at whom. The two sentences *The dog chases the cat* and *The cat chases the dog* demonstrates that the difference in meaning between the two sentences is only due to the difference in word order (Fromkin & Rodman, 1998:93; Liddell, 1980:68; Sutton-Spence & Woll, 1999:57).

Word order is not random in signed languages, however, it can be used to show the grammatical relations between the subject and the object in a sentence, usually when

the verbs are of a type that cannot be modulated (Baker-Shenk & Cokely, 1994:247; Sutton-Spence & Woll, 1999:56; Valli & Lucas, 1995:170). The basic word order of SASL sentences is SOV. Foreman *et al.* (1994:118) explain that grammatical relations amongst signs in the natural signed languages of deaf people are largely determined by the manipulation of sign forms in space. Hence, in SASL, as well as in other natural signed languages, it is space itself which carries linguistic meaning. For example, the only difference between the pronoun for first person and second person is in the location in the signing space.

Another way to show the grammatical relation between subjects and objects in sentences is by specific changes in the way the verb is made, called modulations, as in moving verbs (e.g. PRO.1-PHONE-PRO.2). It is important to keep in mind that the form of some verbs can vary, depending on the object, therefore such verbs come after the object in sentences. For example, the handshape in EAT is different in EAT-PIZZA, EAT-APPLE and EAT-HAMBURGER. In order to establish the correct form of the verb, the object comes before the verb (Baker-Shenk & Cokely, 1994:247; Sutton-Spence & Woll, 1999:56-59; Valli & Lucas, 1995:170).

Changes in the signer's body position to represent different speakers (subjects) and addressees in 'direct address' narratives can also be used as a way to indicate the subjects and objects in sentences. In each of these ways for indicating the subject and/or object, the direction of the signer's eye-gaze (and frequently, his head position) is also important for understanding the grammatical role of different referents in the sentence (Baker-Shenk & Cokely, 1994:247).

Sometimes the order of signs is irrelevant because there is only one sign. For example, the concept 'wash face' is signed as a single unit in SASL and can be glossed WASH-FACE or FACE-WASH. The same is true of SMOKE-CIGARETTE or OPEN-DOOR (Sutton-Spence & Woll, 1999:59). When these one-word phrases are used in sentences, the first person pronoun is usually not signed, and the second or third person pronoun can be indicated by eye-indexing, or by signing the particular pronoun separately.



WASH-FACE/FACE WASH

*I wash my face*

But PRO.2 WASH-FACE/FACE-WASH

*You wash your face*

Or pt WASH-FACE/FACE-WASH

*You wash your face*

## 5.5 Types of sentences in SASL

SASL, like ASL and all natural languages, has different types of sentences. As mentioned before, signed languages, unlike spoken languages, do not rely much on word order to indicate meaning or grammatical role. The grammatical signals that are used to form the different types of sentences are very frequently composed of non-manual behaviours that co-occur with the manual signs.

In order to understand the rules of signed language word order, it is important to understand the two parts of a sentence: the subject and the predicate. The subject is the topic and is most often a noun, noun phrase or pronoun. The predicate is the rest of the sentence and says something about who or what is receiving the action (the goal, or, grammatically, the object) (Sutton-Spence & Woll, 1999:51; Valli & Lucas, 1995:76). Valli & Lucas (1995:76) explain predicates in more detail by using the following English examples. In the sentence *The boy is home*, *the boy* is a noun phrase (subject) and *is home* is the predicate since it says something about the boy. The predicate in spoken languages always consists of at least a verb. Predicates in signed languages can be verbs, nouns or adjectives. In the sentence BOY EAT the verb EAT is the predicate, in the sentence BOY SICK the predicate is an adjective (SICK), and in the sentence BOY HOME the predicate consists of a noun (HOME).

### 5.5.1 Declarative sentences

Declarative sentences (statements) convey referential information. They do not have specific grammatical markings, and can be considered as the basic sentence type in signed language. Also, the non-manual behaviour is neutral. Other types of sentences are formed by adding grammatical signals or by changing the structure of the sentence (Baker-Schenk & Cokely, 1994:122; Valli & Lucas, 1995:137).

### 5.5.2 Interrogative sentences

Interrogative sentences request information. They are generally differentiated from declarative sentences by a characteristic word order, a word that signals a question, a special interrogative particle, or even a characteristic intonation pattern and/or facial expression. The declarative English sentence *He can drive* can be changed to the interrogative sentence *Can he drive?* by inversion of subject and verb, as well as by intonation (Kyle & Woll, 1988:158; Sutton-Spence & Woll, 1999:66). BSL usually places the question sign at the end of the sentence (Sutton-Spence & Woll, 1999:54), and it has been noted that the same is true for interrogative sentences in SASL. There are different types of interrogative sentences: *yes-no*-, *wh*-, and rhetorical questions.

#### 5.5.2.1 Yes-no questions

Questions that are asked when expecting *yes* or *no* for an answer are called polar interrogatives, or *yes-no* questions. The word order and intonation usually indicates when a sentence in English is a *yes-no* question. In a declarative sentence, like *Mary is hungry*, the word order is subject-verb, but in a *yes-no* question, such as *Is Mary hungry?* the verb is placed before the subject, and the speaker's voice usually rises at the end of the sentence (Baker-Schenk & Cokely, 1994:122; Kyle & Woll, 1988:158; Sutton-Spence & Woll, 1999:66; Valli & Lucas, 1995:137).

*Yes-no* questions in ASL, BSL and SASL are indicated with particular non-manual signals composed of raised eyebrows, 'widened eyes', and frequently, a forward tilting of the head and/or body. Sometimes the shoulders are also raised (Baker-Schenk & Cokely, 1994:122; Foreman *et al.*, 1994:120; Liddell, 1980:3; Sutton-Spence & Woll, 1999:67; Wilbur & Patschke, 1999:7). Foreman *et al.* (1994:120) notes that a drawing together of the eyebrows was also sometimes observed in *yes-no* questions. During the question (or at least by the end of the question), the signer looks at the addressee (Baker-Schenk & Cokely, 1994:122,123; Sutton-Spence & Woll, 1999:66,67; Valli & Lucas, 1995:137). A *yes-no* question is indicated with a y/n when the sentence is glossed. The non-manual behaviour accompanying a *yes-no* sentence is illustrated in Fig.5.5:



y/n  
PRO.2 DEAF  
Are you deaf?

Figure 5.5: Non-manual behaviour accompanying a *yes-no* question

y/n  
WOMAN PURSE FORGET

*Did the woman forgot her purse?*

y/n  
MAN HOME

*Is the man home?*

y/n  
YESTERDAY JOHN BOOK BUY

*Did John buy a book yesterday?*

A *yes-no*-question sentence can sometimes consist of only one word with its non-manual behaviours:

y/n  
SICK

*Are you sick?*

Tag questions, for example, *You bought a house, didn't you?* in English are also used in signed language as a form of *yes-no* question. Tag questions in SASL are formed by signing a declarative sentence, and then adding a sign that can be glossed as RIGHT or TRUE, with the appropriate facial expression for a question:

y/n  
YOU CHILDREN THREE HAVE TRUE

*You have three children, haven't you?*

\_\_\_\_y/n

LAST-YEAR YOU FRANCE GO TRUE  
*You went to France last year, didn't you?*

Liddell (1980:3) emphasises the importance of the duration of the non-manual signalling in determining the meaning of the sentence, as well as the indication thereof when the sentence is glossed.

The signer can 'draw a question mark in the signing space', accompanied by *yes-no* non-manual signals. The meaning can be translated as *Any questions? Do you have any questions? Are there any questions?* This is often used in the classroom context or after a speech. The question can be addressed to a specific person by the use of eye-gaze. The sentence can be glossed as follows:

\_\_\_\_y/n

QUESTION  
*Are there any questions?*

### 5.5.2.2 Wh-questions

*Wh*-questions (so called because in English they involve question words that begin with *wh*-) require an answer of a more explanatory nature, not just a *yes* or a *no*. Examples of such question words in English are *who*, *why*, *where*, *what*, *when*, *which* and *how* (Baker-Schenk & Cokely, 1994:122; Kyle & Woll, 1988:158). *Wh*-question words in SASL are WHAT, WHO, WHEN, WHERE, WHY, HOW-MANY and HOW.

*Wh*-questions in English are recognisable by their word order (the verb usually precedes the subject), a lowered tone of voice at the end of the question and a question word (Valli & Lucas, 1995:138). Examples of *wh*-questions in English are *What are you eating? Where are you going? Why are you late?*

*Wh*-questions in signed language also include the use of a question sign that occurs at the end of the sentence, as well as very specific non-manual signals composed of a drawing together of the eyebrows, a frown, slightly closed eyes and, frequently, the

head is forward with a slight lift. Sometimes the body shifts forward, and sometimes the shoulders are raised. During the signing of the *wh*-question (or at least during the *wh*-sign), the signer looks at the addressee. Foreman *et al.* (1994:120) observes that, in contrast to the situation found in ASL, not all *wh*-questions utilise this drawing together of the brows (e.g. WHY? meaning *because*).

Research confirms that the non-manual behaviours for a *wh*-question is the same in SASL. When a *wh*-question is glossed the accompanying non-manual behaviours are indicated as *wh* on top of the line. This non-manual signal for *wh*-word questions is illustrated below (Akach, 1997:28; Baker-Schenk & Cokely, 1994:128; Foreman *et al.*, 1994:120; Valli & Lucas, 1995:138,139; Wilbur & Patschke, 1999:7).



wh  
WHO  
*Who?*

Figure 5.6: Non-manual behaviour accompanying a *wh*-question

wh  
JOHN BUY WHAT  
*What did John buy?*

wh  
YOU GO WHERE  
*Where are you going?*

wh  
YOU CHILDREN HAVE HOW-MANY  
*How many children do you have?*

A question sentence can sometimes consist of only the *wh*-question word with its non-manual behaviours:

wh  
WHY

Why?

wh  
WHERE

*Where?*

The *wh*-sign can sometimes occur both at the beginning and end of the sentence, usually to indicate anxiety, desperation, urgency or to emphasise the question (Sutton-Spence & Woll, 1999:69):

wh  
WHERE CAT WHERE

*Where is the cat?*

wh  
WHAT YOU DO WHAT

*What did you do?*

### 5.5.2.3 Rhetorical questions

A rhetorical question is asked without expecting an answer: in fact, the person asking the question usually provides the answer himself. The function of a rhetorical question is to emphasise what the person is saying and to draw attention to what the person is about to say (Baker-Schenk & Cokely, 1994:137; Sutton-Spence & Woll, 1999:69,70; Valli & Lucas, 1995:140).

An example of a rhetorical question in English is: *Where did I put the keys? Oh, yes, in the kitchen.*

Rhetorical questions are frequently used in signed language and are indicated by a *wh*-word sign (WHO, WHY). Although rhetorical questions in ASL are accompanied by raised eyebrows and a slight tilt or shake of the head, the facial expression in SASL is neutral. The difference between a rhetorical question and a *wh*-question is indicated by the non-manuals as can be seen in Fig.3.6 (Baker-Schenk & Cokely, 1994:137; Valli & Lucas, 1995:140). Examples of rhetorical sentences in SASL:

rh  
I / PRO.1 TIRED WHY STUDY ALL-NIGHT

*(I am tired. Why? I studied all night.)*

*I am tired because I studied all night.*

rh  
JOHN BUY WHAT...BOOK

What did John buy? A book.

*What John bought was a book.*

### 5.5.3 Imperative sentences

Imperative sentences order the addressee to do something. Commands in English usually occur with an understood rather than an explicit subject, for example *Sit down!* or *Come here!* or *Eat!*

Signed languages use stress (emphasis) and usually direct eye-gaze towards the addressee to indicate a command (Baker-Schenk & Cokely, 1994:139). The subject in a signed language command can also be understood (usually by interpreting the non-manual signals). These types of sentences are also accompanied by particular non-manual signals like making direct eye contact with the addressee and frowning. The symbol \* is used to indicate an imperative. When a sign is stressed, an asterisk is written after the sign (Valli & Lucas, 1995:141). Examples of stressed commands in SASL are \*SIT\* (Fig.5.7), \*EAT\* and \*GO\*.



\*SIT\*



\*GO\*

Figure 5.7: Non-manual behaviour accompanying an imperative sentence

#### 5.5.4 Assertion

Speakers of a language can indicate that something is true, or really did or will happen (Baker-Schenk & Cokely, 1994:155,156). In English this is done by the use of words like *really* and *truly* which are emphasised.

To indicate that something is true or really did happen signers use some form of head nodding or lip tightening or both. The head nodding can occur once or repeatedly throughout the whole sentence (Baker-Schenk & Cokely, 1994:155,156). In SASL the eyes are also drawn together. Examples of assertion in SASL are:



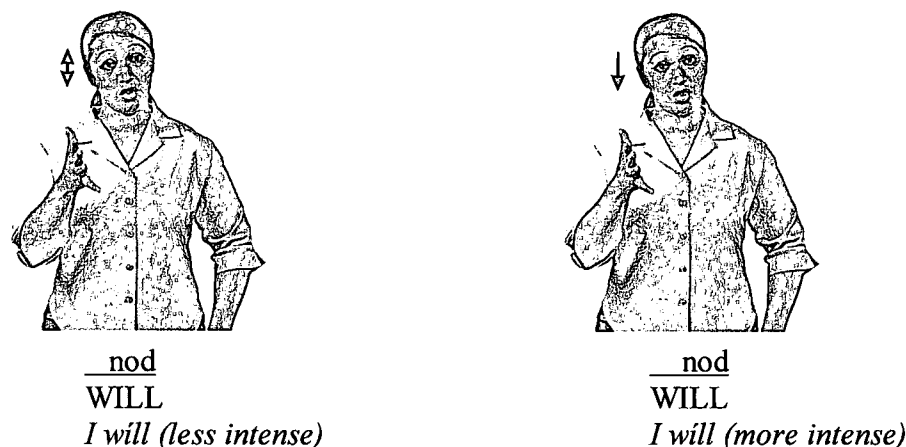


Figure 5.8: Non-manual behaviour accompanying assertion

### 5.5.5 Negation

Negation is the process of changing an affirmative sentence to a negative (Valli & Lucas, 1995:140). English negates sentences by making use of a certain intonation, by using negation words such as *no*, *not*, *never*, *nobody*, *none*, *nought*, *zero*, and morphologically via affixation, such as *un-* in words like *unromantic*, and *dis-* in words like *disorganised*. Examples of negative sentences in English are *The man is not home*, *I am not hungry* and *She is not beautiful*.

Negation in signed language is usually marked non-manually. These non-manual signals are sufficient to produce negation without the use of a manual negating sign like NOT or NO, as long as the non-manual marking accompanies the appropriate part of the sentence. These non-manual grammatical signals are composed of a side-to-side headshake, frequently accompanied by a frown, and sometimes, brows drawn together and/or lowered, a wrinkling of the nose, and/or a raised upper lip. These behaviours basically mean 'not' (Baker-Shenk & Cokely, 1994:145-147; Foreman *et al.*, 1994:120; Liddell, 1980:3; Sutton-Spence & Woll, 1999:73-75; Valli & Lucas, 1995:140).

Although negation is usually indicated via non-manual signals, signed languages sometimes make use of separate negation signs like NO, DON'T-KNOW, NOT-LIKE and NOT to negate sentences. These negating signs must, however, be accompanied

by the appropriate non-manual behaviour (Baker-Schenk & Cokely, 1994:154; Sutton-Spence & Woll, 1999:77). Some verbs are also negation signs, for example REFUSE. Other negation signs like IMPOSSIBLE and NEVER function as adjectives or adverbs. Sentences that are negated via separate negation signs (with the accompanying non-manual signals) will not change the polarity of the sentence, but will reinforce the negativity of the sentence (Liddell, 1980:4).

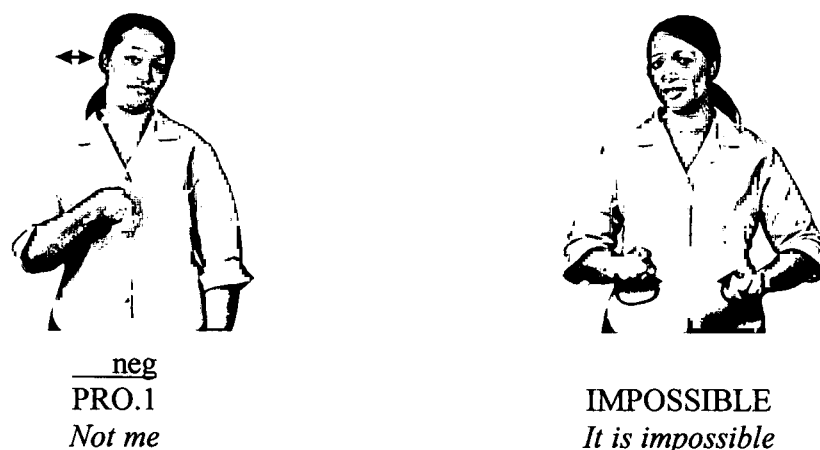


Figure 5.9: Non-manual behaviour accompanying negation

**Negating sentences without a separate negating sign:**

neg  
WOMAN PURSE FORGET  
*The woman did not forget her purse*

neg  
MAN HOME  
*The man is not home*

**Negating sentences with a separate negating sign:**

neg  
WOMAN PURSE FORGET NO  
*The woman did not forget her purse*

neg  
MAN HOME NO  
*The man is not home*

### 5.5.6 Topicalisation

Topicalisation is the grammatical process whereby the topic of a sentence (what the speaker is talking about) is put at the beginning of the sentence, followed by the speaker's comments about the topic. The topic is the focus around which the conversation is taking place (Baker-Schenk & Cokely, 1994:156,157; Sutton-Spence & Woll, 1999:59; Valli & Lucas, 1995:142; Vermeerbergen, 1997:61).

English marks sentence topics in various different ways using fixed phrases, for example: *As for vegetables, ...; Speaking of John, ...; About last night, ...*. An English example of topicalisation is *Many dogs my wife has rescued from the pound*. The deep structure underlying this sentence is *My wife has rescued many dogs from the pound* (Fromkin & Rodman, 1998:147).

Topicalisation is used quite frequently in signed languages, including SASL. This is why it is said that signed languages have a topic-comment structure. The topicalised object is marked by the non-manual signals, which accompany indexing (which includes raised eyebrows, a head tilt, eye-gaze and/or pointing) and a pause that results from the last sign being held slightly longer than usual (Baker-Schenk & Cokely, 1994:156,157; Fischer (1975) in Liddell, 1980:4; Sutton-Spence & Woll, 1999:59-62; Valli & Lucas, 1995:142; Vermeerbergen, 1997:63).

The following sentences demonstrate how a topicalised sentence can be used to emphasise a certain part of the sentence:

      <sup>t</sup>  
BILL HILLARY LOVE

*Bill loves Hillary*

Emphasising that it is Bill who loves Hillary, and not another man

          <sup>t</sup>  
BILL pt HILLARY LOVE

*Bill loves Hillary*

This sentence specifies that Bill loves no other woman but Hillary

          <sup>t</sup>           <sup>neg</sup>  
HOMEWORK, PRO.1 NOT-LIKE

*Homework, I detest it*

*I detest homework*

Whereas signed language has an SOV word order, the structure of topicalised sentences is OSV:

**Ordinary sentence: SOV structure**

FATHER CHILD LOVE  
*The father loves the child*

CAT DOG CHASE  
*The cat chases the dog*

**Topicalised sentence: OSV structure**

\_\_\_\_\_t  
 CHILD FATHER LOVE  
*The father loves this child*

\_\_\_\_\_t  
 CAT DOG CHASE  
*The dog chases the cat*

**5.5.7 Relative clauses**

A relative clause helps identify the specific person or thing that the speaker wants to talk about. For example, in the English sentence *The woman **who works in my office** got married yesterday* the words in bold form a relative clause that helps identify *which* woman got married yesterday (Baker-Schenk & Cokely, 1994:163).

In signed languages the grammatical non-manual signal that occurs with all of the signs in the relative clause, is composed of a brow raise, cheek and upper lip raise, and a backward tilt of the head. There is no pause between the relative clause and the rest of the sentence (Baker-Schenk & Cokely, 1994:163). Examples of sentences with relative clauses in SASL are:

BOY pt RUN pt FAST  
*The boy is running. He is fast.*  
*The boy runs fast*

WOMAN pt WALKS pt BEAUTIFUL  
*The beautiful woman is walking*

**5.5.8 Conditionals**

Valli & Lucas (1995:142) define conditional sentences as expressing a condition upon which the topics being discussed depend. An example of a conditional sentence in English is *If it rains tomorrow, the game will be cancelled*. In English, words such as *if* indicate a condition. Conditional sentences have two parts: a part that states a condition and a part that describes the result of that condition. The second part of the

sentence can be an affirmative statement (*If it rains tomorrow, I will cancel the picnic*) or a negative (*If it rains, I will not play outside*), a question (*If it rains tomorrow, will you cancel the picnic?*) or a command (*If it rains tomorrow, cancel the picnic*).

Conditional sentences are usually accompanied by non-manual grammatical signals which are composed of a brow raise, usually with the head tilted in one direction, and sometimes, the body slightly inclined in one direction (Anderson & Reilly, 1998:118; Baker-Shenk & Cokely, 1994:141). If the result segment is a *yes-no* question, the brows are usually raised higher and the head is tilted toward the addressee, with widened eye-gaze on the addressee. If the result segment is a *wh*-word question then the brows are lowered and drawn together, usually with a change in head/body position. Conditionals in ASL thus involve a brow raise and a head tilt during the condition, followed by a pause – during which several types of changes occur in the non-manual behaviours of the signer (Baker-Shenk & Cokely, 1994:141,142). The non-manual behaviours of conditional sentences are the only way of distinguishing a conditional from two regular statements (Baker-Shenk & Cokely, 1994:143).

The sign #IF, accompanied by the appropriate non-manual signals, can be used to express conditionals in both SASL and ASL. Conditional sentences can be constructed in signed languages with non-manual signals and without the use of signs to show the conditional. The symbol used for conditionals is *cond*, and an example is as follows:

cond

#IF TOMORROW RAIN GAME CANCEL

*If it rains tomorrow, the game will be cancelled.*

cond neg

#IF NEXT WEEK ME ILL ....ME MOVIES GO NO

*If I am ill next week, I will not go to the movies.*

## 5.6 Agreement

In 4.3.2.1 it was mentioned that when words or parts thereof indicate plurality, certain other words (or their parts) should agree with this plurality. It was explained with an example of the number agreement rule in English which specifies that a verb takes a suffix *-s* when the noun in the sentence is singular, and loses the *-s* when the noun is plural. Signed languages also have number agreement rules which require that the noun, pronoun, classifier, adjective and/or verb in a sentence must agree with the fact that something in the sentence is plural. Verbs are often repeated to indicate the plurality of nouns (Baker-Schenk & Cokely, 1994:361,362,378).

Another type of agreement rule that verbs in signed languages have to conform to, is that the size and shape of the handshape is determined by the size, shape and physical characteristics of the object. This means that the verb 'agrees' with the object (Baker-Schenk & Cokely, 1994:266). An example demonstrating this type of agreement is the different handforms that are used for the verb EAT, depending on the type of food that is being eaten, for example a pizza, a burger or specific types of fruit. Moving verbs not only agree with the object in terms of the size and shape of the sign, but the direction of movement, the location, and/or the palm orientation of these verbs also agree with the movement and spatial locations of the persons, places or things they refer to (Baker-Schenk & Cokely, 1994:260,362).

Classifiers have to agree with the size, shape, movement and plurality of the thing they represent (Baker-Schenk & Cokely, 1994:363,368,375).

Non-manuals conform to certain agreement rules. Head tilt usually indicates subject-verb agreement and eye-gaze is used to show object-verb agreement (Baker-Schenk & Cokely, 1994:376; Wilbur & Patschke, 1999:4).

## 5.7 Conclusion

This chapter has focused on the way that words are combined according to certain rules to form grammatical sentences. SASL equivalents for the traditional grammatical categories of spoken languages were presented. It must, however, be

noted that the functions and uses of grammatical categories do not always agree with those of spoken language. Verbs, for instance, contain far more information in signed language than they do in English. It is for reasons such as this that it is extremely difficult to distinguish whether certain characteristics of signed languages should be discussed under morphology or under syntax.

SASL also has rules for the combination of words in sentences. Where many spoken languages, like English, rely mostly on word order to indicate the grammatical relations between words, other languages, like SASL, have additional ways of indicating these relations, such as non-manual signals, reduplication, and the use of space. Languages have different ways of differentiating types of sentences. Where English indicates different types of sentences with word order, and to a lesser extent with intonation, signed languages rely heavily on non-manual indicators. Proforms form an important part of the syntax of signed language, because they facilitate the placing of and the ensuing reference to referents. In forming grammatical sentences it is imperative that the different parts of a sentence 'agree' in terms of, for instance, plurality.

In conclusion, this chapter provides evidence that despite the differences, the basic principles of SASL syntax is similar to those of English syntax, and that SASL also has the creative ability to produce and understand an infinite number of sentences with the finite vocabulary and finite set of rules of how they should be combined.

## CHAPTER 6

### CONCLUSION

This study demonstrates how SASL is organised, and it draws parallels with other natural spoken and signed languages (in particular English, ASL and BSL). Evidence is provided that SASL conforms to the requirements of a natural language. Signed language, however, is expressed as a visual modality. This visual language lends itself to forms of inflection not present in auditory languages. It is therefore problematic to describe all aspects of signed language in terms of concepts characteristic in traditional grammar. Certain phenomena such as plurality, classified in English under inflectional morphology, can be described as both morphological and syntactic in signed language. Other phenomena that are syntactic in English, such as the placing of adjectives, can be incorporated into the word (in this case the noun) in signed language. A further factor that hampers traditional classification is the presence of such items as classifiers, which perform various functions in signed language, and for which there is no logical equivalent in spoken language.

Chapter 2 mentioned that different signed languages have developed independently all over the world. It is important to note that they are not fingerspelled spoken languages or glorified systems of onomatopoeia, but rather arbitrary rule-governed systems of symbols capable of the same level of expression and communication as spoken languages.

Similar to spoken languages, these symbols have parts, as can be seen in the phonology of the language. Parameters in signed languages are equivalent to the distinctive features of phonemes in spoken languages, and can be confirmed with the presence of minimal pairs in both spoken and signed languages. Phonological processes, like assimilation, occur in both spoken and signed languages.

In the chapter on morphology it was shown that words in SASL are built up by smaller meaningful units, equivalent to morphemes in natural languages, that can also be used to form new words in the language. The word formation processes that occur in SASL are grouped under the same categories that apply in English in order to



facilitate associations between the known, for instance such concepts as derivation and inflection, and the unknown (sign language), to make the learning process easier. Signed language is a highly inflected language, which means that certain relationships that are expressed syntactically in English, are expressed morphologically in signed language. The same word formation processes take place in both spoken and signed language, although there are nevertheless inherent differences between the two.

In the chapter on syntax it was demonstrated that SASL has grammatical and syntactic categories similar to those of other languages, and that there are rules according to which words are combined to form meaningful utterances. Word order is not random, although there are also other ways of indicating grammatical relations, for example non-manual signals, or the use of the signing space. SASL has different types of sentences which are largely determined by the use of particular non-manual signals.

As a result of its visual modality, signed language has unique qualities for which there are no equivalents in spoken language. Examples of these are the classifier system, the use of signing space, non-manual signals and the manipulation of handshapes and hand sizes, and their movement in the signing space. These typical characteristics of signed language can be used to indicate plurals, time, aspect and grammatical relationships. Because more than one visual characteristic can be depicted at a time, signed language can sometimes express the equivalent of an entire sentence in one highly inflected word.

In conclusion, this study provides evidence demonstrating that although signed languages have a different modality of expression, they involve similar features, processes and rules as spoken languages.

This study is intended as an introduction to the phonology, morphology and syntax of SASL. Only theoretical features and elements that would assist the beginner sign language student in learning the language, without bombarding him with unnecessary detail, have been selected. The focus is on the structure of SASL, and the study has not dealt with the use of the language in actual conversation, or the semantics of the language. As mentioned before, very little research has been done on the structure of

SASL, and a study on the pragmatics and semantics of SASL could provide new perspectives in the understanding of language (in particular signed language) and language usage in general.

## REFERENCES

- AARONS, D. 1994. *Aspects of the syntax of ASL*. Boston : Boston University. (Unpublished Doctoral thesis).
- AARONS, D. 1995. Hands full of meaning. *Bua!* 10(1):8-10, Dec.
- AARONS, D. 1999. South African Sign Language: changing policies and practice. *Spil plus*, 30:111-143.
- AARONS, D. & AKACH, P. 1998. South African Sign Language – one language or many? A sociolinguistic question. *Spil*, 31:1-28.
- AARONS, D. & MORGAN, R. 2000. The interaction of classifiers and syntax in South African Sign Language. *Spil plus*, 33:1-20.
- AKACH, P. 1997. The grammar of Sign Language. *Language matters*. 28:7-35.
- AKACH & LUBBE, P. 2003. Due to be published: 2003.
- AKACH, P. & MORGAN, R. 1999. Sign Language interpreting in South Africa. In Erasmus, M., ed. *Liaison interpreting in the community*. Pretoria : Van Schaik Publishers, 67-76.
- AKMAJIAN, A. & DEMERS, R.A. & HARNISH, R.M. 1984 *Linguistics: an introduction to language and communication*. Cambridge, Mass.: The MIT Press.
- ANDERSON, D.E. & REILLY, J.S. 1998. PAH! The acquisition of adverbials in ASL. *Sign Language and Linguistics*, 1(2)117-141.
- BAKER-SHENK, C. & COKELY, D. 1994. *American Sign Language: a teacher's resource text on grammar and culture*. Washington : Gallaudet University Press.

- BONVILLIAN, J.D. & SIEDLECKI, T. Jr. 1998. Young children's acquisition of the movement aspect in American Sign Language: parental report findings. *Journal of Speech, Language and Hearing Research*, 41(3):588-602.
- BRENNAN, 1987/1992. British Sign Language: The Language of the Deaf Community. In Gregory, S. & Heartley, G.M., eds. *Constructing deafness*. Great Britain : Pinter Publishers Limited. (174-188)
- CED (Collins English Dictionary) 1999. Indiana: HarperCollins Publishers.
- COGILL-KOEZ, D. 2000. Signed language classifier predicates: linguistic structures or schematic visual representation? *Sign Language and Linguistics*, 3(2)153-207.
- CRYSTAL, D. 1997. *The Cambridge encyclopedia of language*. Cambridge: Cambridge University Press.
- DEAFSA. 2001. Sign Language. [Web:] <http://www.deafsa.co.za/sign/newsign2.htm> [Date of access: 3 October 2001].
- ELECTRIC LIBRARY PRESENTS ENCYCLOPEDIA.COM. 2001. Sign language. [Web:] <http://www.encyclopedia.com/printable/11872.html> [Date of access: 11 November 2001].
- FERNALD, T.B. & NAPOLI, D.J. 2000. Exploitation of morphological possibilities in signed languages. *Sign Language and Linguistics*, 3(1):3-58.
- FOREMAN, D.O. & PENN, C. & REAGAN, T. 1994. Selected syntactic features of South African Sign Language: a preliminary analysis. *South African journal of linguistics*, 12(4):118-123.
- FRIEDMAN, L.A. 1977. Formational properties of American Sign Language. In Friedman, L.A., ed. *On the other hand: new perspectives on American Sign Language*. New York : Academic Press, Inc, 13-56.

- FRISHBERG, N. & GOUGH, B. 2000. Morphology in American Sign Language. *Sign Language and Linguistics*, 3(1)103-131.
- FROMKIN, V. & RODMAN, R. 1998. *An Introduction to language*. New York : Harcourt Brace College Publishers.
- GALE ENCYCLOPEDIA OF CHILDHOOD AND ADOLESCENCE. 2001. American Sign Language. [Web:] [http://www.findarticles.com/cf\\_dls/g2602/0000/2602000032/print.jhtml](http://www.findarticles.com/cf_dls/g2602/0000/2602000032/print.jhtml) [Date of access: 11 Nov. 2001].
- GRUSHKIN, D.A. 1998. Linguistic aspects of metaphorical expressions of anger in ASL. *Sign Language and Linguistics*, 1(2)142-168.
- HAMM, M. 2001. A proposal before curriculum committee on the status of American Sign Language as a foreign language. [Web:] [http://www.crosswinds.net/~msh210/aslfl\\_proposal.html](http://www.crosswinds.net/~msh210/aslfl_proposal.html) [Date of access: 11 Nov. 2001].
- IVIĆ, M. 1965. *Trends in Linguistics*. The Hague : Mouton publishers.
- JOB, E. 1990. The case for a world sign language for all of us to use. *Social alternatives*, 9(3):52-53.
- JOHNSTON, T. & SCHEMBRI, A. 1999. On defining lexeme in a signed language. *Sign Language and Linguistics*, 2(2)115-185.
- KLIMA E. & BELLUGI, U. 1980. *The Signs of Language*. London : Harvard University Press.
- KYLE, J.G. & WOLL, B. 1988. *Sign Language: the study of deaf people and their language*. Cambridge: Cambridge University Press.
- LANE, H. & HOFFMEISTER, R. & BAHAN, B.A. 1996. *Journey into the Deaf-World*. San Diego, California : Dawn SignPress.

LAPALOMBARA, L.E. 1976. *An introduction to grammar: traditional, structural, transformational*. Massachusetts : Winthrop Publishers, Inc.

LEECH, G. & DEUCHAR, M. & HOOGENRAAD, R. 1982. *English grammar for today: a new introduction*. Hong Kong : The MacMillan Press Ltd.

LIDDELL, S.K. 1980. *American Sign Language syntax*. New York : Mouton Publishers.

LIDDELL. 2000. Blended spaces and deixis in sign language discourse. In McNeill, D., ed. *Language and gesture*. Cambridge : Cambridge University Press.

LYONS, J. 1981. *Language and linguistics: an introduction*. Cambridge: Cambridge University Press.

MARSCHARK, M. 1997. *Raising and educating a deaf child*. New York : Oxford University Press.

MCNEILL, D. (ed.). *Language and gesture*. 2000. Cambridge : Cambridge University Press.

NEIDLE, C. & KEGL, J. & MACLAUGHLIN, D. & BAHAN, B. & LEE, R.G. 2000. *The syntax of American Sign Language: functional categories and hierarchical structure*. Massachusetts : MIT Press.

NEWKIRK, D. 1998. On the temporal segmentation of movement in American Sign Language. *Sign Language and Linguistics*, 1(2)173-211.

O'REGAN, D. 1996. Learning to sign. *British medical journal*, 4(46):429.

PADDON, C.A. 1998. The ASL lexicon. *Sign Language and Linguistics*, 1(1)39-60.

PENN, C. 1992. The sociolinguistics of Southern African Sign Language. In Herbert, R., ed. *Language and society in Africa: the theory and practice of sociolinguistics*. Johannesburg : Witwatersrand University Press, 277-284.

PENN, C. & LEWIS, R. & GREENSTEIN, A. 1984. Sign language in South Africa: some research and clinical issues. *South African journal of communication disorders* 31:6-11.

PENN, C. & REAGAN, T. 1990. How do you sign Apartheid? The politics of South African Sign Language. *Language problems and language planning*, 14(2):91-103.

PENN, C. & REAGAN, T. 1991. Language acquisition in hearing and deaf children: implications for the educator. Paper read at the *Biennial conference held in Worcester in September 1991*.

PENN, C. & REAGAN, T. 1994. The properties of South African Sign Language: lexical diversity and syntactic unity. *Sign Language Studies*, 85:319-327.

PENN, C., REAGAN, T. & OGILVY, D. 1991. "On that day the Deaf shall hear": Deaf-hearing interchange in South Africa. *Sign Language studies*, 71: 131-142.

REAGAN, T.G. & PENN, C. 1997. Language policy, South African Sign Language, and the Deaf: social and educational implications. *South African journal of applied language studies*, 5(1):1-13.

SIMON-MEYER, J. 1999. The Deaf: a linguistic minority with its own culture. *Health System Trust (South Africa)* 41:15. April.

SUTTON-SPENCE, R. & WOLL, B. 1999. *The Linguistics of British Sign Language: an introduction*. Cambridge : Cambridge University Press.

VALLI, C. & LUCAS, C. 1995. *Linguistics of American Sign Language: a resource text for ASL users*. Washington D.C. : Gallaudet University Press.

VERMEERBERGEN, M. 1997. *Grammaticale aspecten van de Vlaams-Belgische Gebarentaal*. Gentbrugge : Cultuur voor Doven.

VOLTERRA, V. 1992. What Sign Language Research can teach us about language acquisition. In Gregory, S. & Heartley, G.M., eds. *Constructing deafness*. London : Pinter Publishers Limited, 207-216.

WARREN, S. & MEYER, S. & AND TESNER, H. 1986. Signed lexical items in an Afrikaans oral residential school for the deaf. *South African journal of communication disorders*, 33,56-64.

WILBUR, R.D. & PATSCHKE, C. 1999. Syntactic correlates of brow raise in ASL. *Sign Language and Linguistics*, 2(1)3-41.

WILCOX, S. 2001. Sign Language: online encyclopedia. [Available on Internet:] <http://encarta.msn.com> [Date of access: 10 Nov. 2001].

WOLKOMIR, R. 1992. Sign American Sign language: "it's not mouth stuff – it's brain stuff." *Smithsonian*, 23(4):30-41.

YULE, G. 1996. *The Study of Language*. Cambridge : Cambridge University Press.



## APPENDIX

A



B



C



D



E



F



G



H



I



J



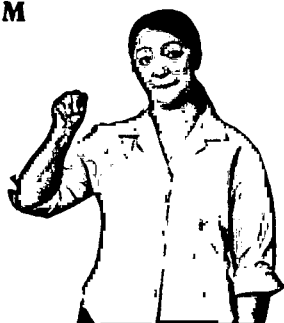
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