The noun phrase in Estonian Sign Language from the typological perspective

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Abbreviations

ACC	accusative
CL	classifier
DAT	dative
ERG	ergative
NOM	nominative
PL	plural
POSS	possession
SASS	size-and-shape specifier
SG	singular
SUB	subject

... "we can say that what is natural to mankind is not oral speech but the faculty of constructing a language, i.e. a system of distinct signs corresponding to distinct ideas."

Ferdinand de Saussure, *The Object of Linguistics*.

1 Introduction

The primary purpose of this paper is to bring within the purview of linguistics a less known language, the sign language used by the Estonian deaf. Although little is known about the existence of Estonian Sign Language (ESL), it has been, is, and will be used in communication between the deaf themselves. ESL exists in reality, but it has been virtually unstudied in linguistic terms. The general knowledge about the rules which govern the combining of signs into sentences in ESL is limited and, despite the fact that people for whom sign language is their first language, or the primary means of communication, *do* know how to sign, a detailed description of these rules and of the whole language is needed. This is so not only for working out the method of teaching ESL, but also because the data about every single language, whether signed or spoken, contribute to the study of language universals.

Since 1960 - when the American linguist William Stokoe presented his seminal work *Sign Language Structure: An Outline of the Visual Communication System of the American Deaf* - research on different sign languages across the world has shown that the signs of a sign language are something more than gestures without internal structure. Also, the "gestures" that are used in the communication systems of deaf people have turned out to form real languages, "which are just as rich, just as complete, and just as productive as the spoken languages" (Lillo-Martin 1990:86) (see Chapter 5).

Furthermore, research on sign languages has shown that the theories which have been applied to spoken languages are also applicable to sign languages. For this reason, sign languages have gained more and more attention with reference to the search for language universals, and it has been understood that the questions about the nature and fundamental properties of human language could only be answered by widening the scope of study to sign languages as well. Bernard Comrie (1981:221) has written in the conclusion to his book *Language Universals and Linguistic Typology*:

> [i]n seeking explanations for universals of spoken language, one obvious question that might arise is the extent to which these universals can be explained in terms of the medium employed. Thus, clearly many universals of phonetic structure are determined or facilitated by the structure of the human vocal tract, and the nature of human auditory perception. It is conceivable that certain other universals of spoken languages might in turn correlate with properties of the medium, rather than, necessarily, with the human linguistic faculty at a more abstract level. Fortunately, we do here have a standard of comparison, namely various sign languages, which use a radically different medium.

Thus, the object of this paper is to observe whether and how the major grammatical categories of the noun phrase which appear cross-linguistically in spoken languages are expressed in Estonian Sign Language. That is, the paper is concerned with describing the noun phrase in ESL from the typological perspective.

I used videotaped recordings of native signers of ESL, originating from the period of 1990-1994 as the material for my study. A more detailed account of the data for

this study is given in Chapter 2. An overview of the typological approach to the study of grammar, and of the main issues related to it will be presented in Chapter 3. The purpose of Chapter 4 is to outline the major grammatical categories of the noun phrase: number, gender, definiteness and case, and to illustrate the various means and ways that different spoken languages utilise to express or indicate them. Attention has also been paid to the relationships within the noun phrase, and some universals by Greenberg in relation to these will be presented in order to observe their validity or applicability in the case of Estonian Sign Language in Part II. Chapter 5 serves to point out the main features of signs and sign languages; a general overview of the current state of Estonian Sign Language will also be provided.

Part II, which deals with the noun phrase in Estonian Sign Language, commences by observing the grammatical categories outlined in Part I, Chapter 4. The expression of number, noun class, definiteness and case in the ESL noun phrase will be described in Chapter 6. In addition to the grammatical categories mentioned above, Chapter 8 pays attention to adjectival modification, especially to the order of noun signs in relation to signs expressing quality (adjectives). This is particularly important because one of the claims which I have frequently encountered in sign language classes (as well as in the literature on sign language linguistics) is that one should sign a thing (object, person or entity) first, and then its quality. The validity of this statement will be tested. The way possession is expressed in ESL noun phrases is also of interest, a description of which will be presented in Chapter 7. Chapter 9 serves to observe whether the ESL noun phrase reveals some constraints in relation to the ordering of multiple elements (signs) occurring in the phrase. A summary of the main findings pertaining to the noun phrase in Estonian Sign Language will be given in Chapter 10.

2 Methodology

The present study is a descriptive report on the grammatical categories of the noun phrase in Estonian Sign Language (ESL) from the typological perspective. The methodology to be employed in this paper is primarily inductive and data-driven.

The data for this study come from two main sources. The main set comes from videotaped recordings of six deaf native signers of ESL. These recordings originate from the period of 1990-1994, recorded by Vahur Laiapea who was collecting data for his Master's dissertation on ESL and by Ave Paat (then Ave Laiapea). One of the tapes is used as a "textbook" in primary school level language classes in the Tallinn Deaf School to help deaf children to understand the content of texts in the Estonian language. The stories on the tape were signed by an adult native signer from a family with deaf parents. Other tapes (also originating from the period of 1990-1994) include recordings of native signers from the age of 12 to 21 reporting on some past event or experience, or recounting (signing) about their favourite book or film.

The tapes were transcribed using a system of written Estonian glosses in capital letters determined by the most frequently associated Estonian word. In the present paper, Estonian glosses are presented in English according to the tradition of international sign language research. Glosses are given at the level of detail required for the present analysis, not in their full complexity (e.g. eyegaze, head tilt, etc. are not indicated, if not carrying crucial information).

The minor set of data comes from working with several deaf informants who were asked specific questions in order to check the validity of hypothesis about Estonian Sign Language. This set of data was collected in the form of notes in which ESL signs were recorded using the same system as described above.

Throughout this paper, ESL examples consist of two lines. Since the language under study is on videotape, examples are presented in a literal translation of the original language containing both lexical and grammatical information in the first line. The second line is a translation into English.

Examples of spoken languages consist of three lines: the first line is from the language under consideration; the second line is a literal translation of the original language providing lexical and grammatical information; the third line gives the English translation of the first line. Apart from the lexical and grammatical information, the gloss (first line in examples from ESL, second line in examples from spoken languages) also contains colons (:) and dashes (-). A colon indicates that the grammatical information is inseparable from the word, as for example, the English demonstrative *these* is simultaneously demonstrative and plural. A dash, conversely, points out that the grammatical information is separable, attached to the word/other grammatical information. For example, in the case of the English word *books* the gloss *book*-PL shows that -s is the plural marker attached to the word. Other indications pertaining specific grammatical information will be explained within the body of the text.

Part I

3 Typological approach to the study of language

The term 'typology' has a number of different uses in linguistics. It is used to refer to the classification of structural types across languages (typological classification), to the study of linguistic patterns or generalisations that hold across languages (generalisation), and, finally, the term represents a theoretical and methodological approach that contrasts with other linguistic theories and which provides an explanation of grammatical phenomena on a broad empirical base (Croft 1990:1-2). All the three more specific definitions of 'typology' constitute the typological approach to the study of grammar, which the present paper endeavours to pursue. In the following chapters we will investigate the notion 'language typology' in more detail, dealing first with typological classification and then with generalisation.

3.1 Typological classification

In typological classification, languages are classified according to the features they have in common and which, in turn, distinguish them from other languages (Croft 1990:1).

The classification of languages originates from the nineteenth century, and was based on the morphological structure of words. The morphological typology of the nineteenth and early twentieth centuries, as Croft (1990:1) remarks, is an example of the "classical" use of the term 'typological classification.' According to the classical formulation of morphological typology (after August Schleicher) languages were divided into three types: *isolating* which did not use affixes at all; *agglutinative* that used affixes denoting single grammatical categories (e.g. number) and were "concatenated with relatively little phonological alteration" (Croft 1990:39), *inflectional* where affixes were often fused together with several grammatical categories (e.g. number, gender, case) into a single morpheme, and which "often underwent major phonological alternations when combined with roots" (Croft 1990:39).

In the 19th century, the typological approach was strongly influenced by Darwin's ideas according to which language types were viewed as representing different stages in linguistic evolution, and changes in a language were seen in terms of growth and decay (McMahon 1994:316). As Anttila (1972:312) notes, "[i]t was generally thought that isolating languages yield agglutinating ones and that these in turn yield flectional types."

At that time the typological classification of languages "recognised only a single parameter on which languages varied, the morphological structure of words," as pointed out by Croft (1990:39), and "it was a classification of languages as a whole, not parts of a language" (ibid.). More recent typological classification, in contrast, involves a particular construction rather than a language as a whole. For instance, "the nominal system of a language may be agglutinative while the verbal system is inflectional" (Croft 1990:42). In this respect, typology "owes to the structuralist (and generative) approach to linguistic analysis"(Croft 1990:39).

Nowadays, typological classifications tend to concentrate more on syntactic characteristics of a language than on morphology. For instance, Comrie (1981:49) writes that

> morphological typology has a secure, but restricted, place in language typology, and it is to be hoped that general linguistic textbooks will not continue indefinitely to give the impression that this is the only, or most insightful, way of classifying languages typologically.

The fact that languages can be classified in some other way was illustrated by Joseph Greenberg (1990) who studied a variety of syntactic, semantic and morphological characteristics of languages and formed 45 universals. This research revealed, according to Hawkins (1983:3) that of all mathematically possible word order combinations across different phrasal categories, languages use surprisingly few (see Hawkins 1983). For example, with regard to ordering within major sentence constituents, Greenberg (1990:43) states that "[t]he vast majority of languages have several variant orders but a single dominant one." He (1990:43) brings out six possible orders of subject (S), verb (V) and object (O): SVO, SOV, VSO, VOS, OSV, and OVS, the last three of which are found to be very rare (Greenberg 1990:43).

Clearly, this kind of word order typology presupposes the viability of categories such as subject, verb, object, noun, and adjective as basic linguistic entities of all languages, as well as the viability of basic word ordering in natural language (Hawkins 1983: Ch.1.5). This, in its turn, leads us to the basic implication that typology has for contemporary linguistics: cross-linguistic comparison.

3.1.1 Cross-linguistic comparison

Any typological analysis requires cross-linguistic comparison of "the relationship between linguistic form and external function" as a descriptive prerequisite (Croft 1990:12). However, a number of methodological problems are related to that.

One of the important issues is that the identification of the fundamental grammatical categories such as noun, verb and adjective, subject and object, head and modifier, etc., appears to be controversial, because these grammatical categories display considerable variation in their structural expression across languages (Croft 1990:13). For example, "English nouns like *food*, *faith*, and *love* have to be rendered by verbal expressions in Mazatec (of Mexico); some Hopi verbs can be given by Kannada verbs, other correspond to Kannada adjectives" (Anttila 1972:316); names, for example, are verbs in such languages as Oneida, e.g. *Kanastalukwa* means 'Shelled Corn', *Skanyataliyo* 'Handsome Lake' (roughly 'the water is again good for navigation'); *layáthos*has the meaning 'he plants corn' for the English noun 'farmer' and *shakoye°nás* 'he arrests them' for the English 'sheriff' (Anttila 1972:316). The grammatical relation of 'subject,' for instance, can be expressed structurally in several ways: "by case/adposition marking, by indexation or agreement, by word order, or by a combination of both of these" (Croft 1990:13). This, in its turn, requires cross-linguistic means to identify case/adposition, indexation/agreement and word order (Croft 1990:13). Although word order is regarded as the easiest to identify, the correct word-order statement requires the identification of the grammatical category of each unit (Croft 1990:13). For example, in order to assert that subjects in Yoruba can be identified according to their pre-verbal position, one has to identify verbs first, "not to mention the category 'noun phrase' or at least 'noun' which the subject is assumed to fall into (and not to mention a cross-linguistic means of individuating syntactic units)" (Croft 1990:13).

As for case/adposition and indexation/agreement, they also display remarkable variation across languages, and thus will not provide an unproblematic cross-linguistic definition, at least not by itself (Croft 1990:15).

Relying (only) on intuition would also present a problem, because "[o]ur intuitive notion of "subject" is based on English subjects (or "Standard Average European" subjects, to use Benjamin Whorf's [1956:138] term), specifically, on the semantic relation between the event denoted by the verb and the participant denoted by the English subject" (Croft 1990:15). As it can be expected, the "English subject" may not correspond to the subjects of some "exotic" language, consider the following examples from Chechen-Inguish (CM is a class marker that agrees with a verbal argument) (Croft 1990:15-16):

    (1) bier-Ø d-ielxa   (Chechen-Inguish)
         child-NOM CM-cries
         'The child is crying'

    (2) a:z yz kiniŠka-Ø d-ieŠ   (Chechen-Inguish)
         I.ERG this book-NOM CM-read
         'I'm reading this book.'

    (3) suona yz kiniŠka-Ø d-iez   (Chechen-Inguish)
         me.DAT this book-NOM CM-like
         'I like this book.'

If we identify, as in the above examples, the subject with the nominative noun phrase that the verb agrees with, it is "this book" which becomes the "subject" in (2) and (3). However, while treating the ergative and/or dative noun phrase as "subject," then example (1) appears not to have the "subject" at all (Croft 1990:16). Nevertheless, the problem of cross-linguistic identification of grammatical phenomena should not be overstated, as language-external definitions of grammatical categories (i.e. semantic/pragmatic definitions for morphosyntactic phenomena and phonetic definitions for phonological phenomena) are generally exploited in order to study the structural variation in their expression across languages.

3.2 Typology and language universals

> At first sight, the study of language universals and the study of language typology might seem to be opposites, even in conflict with one another: language universals research is concerned with finding those properties that are common to all human languages, whereas in order to typologize languages, i.e. to assign them to different types, it is necessary that there should be differences among languages. The contrast can thus be summed up as one between the study of the similarities across languages and the study of the differences among languages (Hawkins 1983:50).

Comrie (1981:31) shows that there is actually no conflict between the study of language typology and the study of language universals. He (1981:31) writes that while carrying out typological analysis on some parameter across languages, one finds a certain number of logically possible types, and then classifies each language of the sample according to one or other of these types. "If all the logical possibilities have actual representatives, and there is no marked skewing of membership among the various types, then /.../ it demonstrates that there are no restrictions on language variation with respect to the chosen parameter" (Comrie 1981:31). However, if "some of the logical possibilities are not represented or are represented by a statistically significant low or high number of representatives, then the

typological result does become of importance for the statement of language universals" (Comrie 1981:31).

The simplest type of cross-linguistic generalisation is the absolute universal which asserts that "all languages belong to a particular grammatical type on some parameter, and the other types on the same parameter are not attested (or are extremely rare)" (Croft 1990:46). For example, Greenberg's *Universal 1* about the order of the subject and the object is an unrestricted universal (Greenberg 1990:43):

> *Universal 1.* In declarative sentences with nominal subject and object, the dominant order is almost always one in which the subject precedes the object.

The number of absolute universals is, however, relatively small; linguistic theories are usually built on these universals since they tend to be true of all languages (Croft 1990:46).

More commonly occurring universals, the ones which are characteristic of most typological research are implicational. They follow the logical form 'If a language has P, then it also has Q' (as an example, see Universals 18, 19, 20 in 4.3.1).

Implicational universals can only be established through a cross-linguistic comparison; they represent "the simplest form of pattern in language variation" (Croft 1990:47). For this reason, implicational universals are regarded as "the paradigm example of a typological generalisation" (Croft 1990:47).

On the whole, a typological approach to the study of grammar comprises detailed descriptions of the similarities and differences of the languages of the world, regardless of their historical antecedents. These descriptions provide data for generalisations, which, in turn, contribute to the understanding of the structure and function of human language.

4 The noun phrase

The purpose of this chapter is to illustrate the means and ways which spoken languages utilise to mark the major grammatical categories in the noun phrase. Also, it serves to show how languages tend to indicate the syntactic relationships between the noun phrase elements. In order to do that, an account of the concept 'noun phrase' will be given first.

4.1 Introduction

The concept of the 'noun phrase,' which was created by American structuralists, has come into the general linguistic analysis via the Transformational-Generative Grammar. The term 'phrase' refers to an intermediary level or node between 'clause' and 'word' (Raumolin-Brunberg 1991:62). The phenomenon indicated by the term 'noun phrase' has also been studied under the name 'noun group' (Raumolin-Brunberg 1991:62). Since the term 'noun phrase' is more widespread, it will be used throughout this paper.

The noun phrase (NP) typically functions as the argument or the participant of a verbal predicate (Tallerman 1998:39-43). The possible syntactic functions of NPs are, for example, subject, object, subject and object complement, adverbial, complement in prepositional phrases (Greenbaum 1991:47). Semantically, NPs can express such roles as agent, theme, goal, experiencer/patient, instrument (Tallerman 1998:39-40).

Traditionally, NPs are thought of as comprising a head element that is realised by a noun, and optionally of one or more modifiers (dependents) (Payne 1994:2849). As Huddleston (1984:232) writes, "[t]here is a wide range of types of dependents and no definable limit on how many we can have in a single NP: the potential complexity of NP structure matches that of the clause." Typical NP modifiers are, according to the description of Payne (1994:2849), "determiners, quantifiers and quantifier phrases, adjectives and adjective phrases, noun and noun phrases, adpositions and adpositional phrases and clauses."

The NP is, as Raumolin-Brunberg (1991:63) points out, "the most important of those categories that connect language and the outside world":

> [o]ne of central functions [of NPs - M.M.] is to refer to items in the real world. All noun phrases have the potential of reference, although it is not always employed, as NP functioning as modifiers and subject complements typically classify and characterise. Reference to the real world can also be indirect or textual. Rather than directly referring to the real world items (exophoric reference), pronouns often refer to noun-headed NPs within the text, which in turn refer to the outer world (endophoric reference).

4.2 Grammatical categories for nouns

Each of the main word classes is associated with a typical set of grammatical categories. Greenberg (1990:58) points out number, gender and case as the most common nominal inflectional categories for nouns. Tallerman (1998:50) also adds a category of definiteness. While number, gender, and definiteness are considered to be inherent categories for nouns, marking the relationship between the head and its dependents within the NP, case is regarded as a relational category which indicates the relationships the NP contracts in a clause or sentence (Tallerman 1998:50). In the following chapters we will examine these grammatical categories for nouns, dealing first with number, and then gender/noun class, definiteness, and case.

4.2.1 Number

There are many languages which mark nouns and noun phrases overtly for number distinction (Tallerman 1998:51). If a language uses only one location for an overt number marker, this is most likely to be the head noun, although such languages exist where the principal signal of number occurs elsewhere in the NP (Cruse 1994:2859). In (spoken) French, for instance, it is the determiner which serves as the predominant locus of number information, e.g. *le livre* (/l¶ livr/), *les livres* (/le livr/) (Cruse 1994:2859), despite the fact that some nouns are clearly marked for number (*cheval, chevaux*) (ibid.). The number marker may be cliticized to the NP as such instead of one determinate constituent, as for example in Persian, where the signal for number is attached to the element occurring in the final position within the NP: *ketab* 'the book,' *ketab-ha* 'the books,' *ketab-ebozorg* 'the large book,' *ketab-e-bozorg-ha* 'the large books' (Cruse 1994:2859). Some languages mark number only in the pronoun system, that is, pronouns have an obligatory singular-plural number distinction which is not found among common nouns. This occurs, for example, in Mandarin Chinese where personal pronouns necessarily display an opposition of number: *wo* 'I,' *women* 'we' whereas *shû* means 'book/books' (Comrie 1981:183).

As Cruse (1994:2859) observes, the formal means which languages exploit for indicating number distinctions are many and varied, and within a single language several types of number markers may be found. Following his (Cruse 1994:2859) classification, the possible number markers are: affixation, reduplication, cliticization, internal modification, suppletion and the use of free markers (i.e. number words).

Affixation comprises suffixation which is used, for example, in English: *book-s*, in Turkish *kitap-lar* 'books'; prefixation is exemplified in Shona: *ka-munhu* 'person,' and *tu-vanhu* 'persons'; infixation, which appears to be rare, is used, for example, in Yurok: *perey* 'old woman,' *pe-ge-rey* 'old women' (Cruse 1994:2859).

Reduplication, which is a frequent and iconic way of showing singular-plural number opposition, as pointed out by Cruse (1994:2859), may involve either the whole stem as in Indonesian: *buku* 'book,' *buku-buku* 'books'; or only part of the stem. In the latter case, the relevant part which undergoes inflection for number may be the beginning, as in Bontok (or Igorot) *anak* 'child,' *ananak* 'children,' or the end, as in Washoe: *gusu* 'buffalo,' *gususu* 'buffalos' (Cruse 1994:2859). Altogether, reduplication is related to the rhythmic structure of words.

Cliticization is exemplified in Persian by the plural marker -ha (see example above). Internal modification for the singular/plural distinction is represented (marginally) in English: *goose, geese*; the more complex modification can be exemplified by the Arabic broken plurals: *walad* 'boy,' *awlad* 'boys.' Free markers, being syntactically distinct from numerals, generally appear to be the only indication of number information in an NP. As an illustration, see examples from Gbeya (4) and Hawaiian (5) (Cruse 1994:2859):

    (4)   o tu wi-re   (Gbeya)
                PL black person
                'black people'

(5)	a'u mai i'u	(Hawaiian)
	my PL fish	
	'my fish(es).'	

Although most number systems have only two terms, that of singular and plural, other degrees of numerosity also occur. According to Cruse (1994:2857), the most common of these is the 'dual' which refers to two items. Consider the following from Iraqi Arabic: *walad* 'a boy,' *waladayn* 'two boys,' *wulid/awlâd* 'more than two boys' (Cruse 1994:2857-2858). The less frequent degree of numerosity is a 'trial' which is used for signalling three items. Examples of this kind of number markers can be found, for instance, in Marshallese and Mangarayi (Cruse 1994:2858).

4.2.2 Gender or noun class

First it should be noted that 'gender' or 'noun class' refer to the same grammatical property, "the different terms are merely the products of different linguistic traditions," as Corbett (1994:1348) remarks. Generally, noun class is indicated on the noun itself (Tallerman 1998:51). In Italian and Spanish, for example, nouns ending in *-o* are morphologically marked for masculine, as in Italian: *il libro* 'the book'; nouns ending in *-a* carry the noun-class marker for feminine: *la casa* 'the house' (Tallerman 1998:51).

The number of genders may vary considerably. While it is relatively common to mark nouns for two (masculine/feminine) or three (masculine/feminine/neutral) genders, Bantu languages, for example, reveal extensive noun class systems with about ten different genders where nouns are morphologically classified according to animateness, shape, size, countability, etc. (Givon 1984:58). Consider the following examples from Northern Sotho (Bantu); the noun-class markers are indicated in bold (Tallerman 1998:52):

(6)	**mo**-tswadi	(Northern Sotho)
	PERSON-parent	
	'parent'	

(7)	**Se**-sotho	(Northern Sotho)
	LANGUAGE-Sotho	
	'Sotho language/culture.'	

However, in some languages noun-class markers are not attached to the noun itself, but tend to be associated with quantifying/numeral modifiers, or with pronouns/articles (Givon 1984:60). In the case of German or French, for instance, the gender of the noun appears on the articles (Tallerman 1998:52).

4.2.3 Definiteness

The definite/indefinite distinction, as Givon (1984:61) observes, is most commonly marked morphologically on nouns. As an illustration, consider examples from Israeli Hebrew which display the cliticization of articles to the noun (indicated in bold) (Givon 1984:61):

| (8) | *Definite:* **ha**-ish | (Israeli Hebrew) |
| | the-man | |

'the man'

(9)   *Referential-indefinite:* ish-**xad**   (Israeli Hebrew)
        man-a
        'a man'

(10)   *Non-referential:* ish   (Israeli Hebrew)
        'man'

In such languages as Norwegian and Swedish, for instance, definite/indefinite distinction can be marked both morphologically on nouns and by a separate closed class word in the NP, a determiner, as exemplified in (11) and (12) (Tallerman 1998:52):

(11)   mus-**en**   (Swedish)
        mouse-DEF
        'the mouse'

(12)   **den**(hungriga) mus-**en**   (Swedish)
        the hungry mouse-DEF
        'the (hungry) mouse'

Many languages signal the definite/indefinite reference of nouns by independent words, that is, by determiners. In English, for instance, nouns themselves do not carry any morphological information about definiteness, since determiners such as the or a serve to distinguish definite nouns from indefinite ones, respectively (Quirk & Greenbaum 1973:69).

However, there are also languages which exploit neither morphological markers nor determiners to indicate definiteness. Instead, the word order variation encodes whether the NP has a definite or an indefinite reference. This occurs, for instance, in Chinese. Consider examples in (13) where the definite NP is indicated in bold (Tallerman 1998:39):

(13) a.   Ta mai pingguo le.   (Chinese)
            he buy apple ASPECT
            'He bought an apple.'
     b.   Ta pingguo mai le.
            he apple buy ASPECT
            'He bought **the apple**.'

4.2.4 Case

While the grammatical or inflectional categories for nouns which we have observed so far are inherent properties of nouns, case is a category which indicates the relational property of noun phrases. Case denotes, for instance, which syntactic relationship the NP contracts with the verb in a clause through such contrasts as nominative, accusative case, etc. (Crystal 1991:47).

Case markers most commonly appear on the NPs whose function they signal (Givon 1984:61). For example, one of the main ways of distinguishing NPs functioning as subjects is by marking them specifically as subjects (e.g. nominative) and NPs

functioning as objects is by marking them by accusative (i.e. nominative/accusative system). As a typical and transparent suffixal marking of case, consider example (14) from Japanese (Givon 1984:62):

(14)   otoka-**wa** onna-**ni** tegami-**o** kaita   (Japanese)
        man-SUBJ woman-DAT letter-ACC wrote
        'The man wrote a letter to the woman.'

For comparison, in a language such as Bikol (Philippine) case is indicated by prefixes (Givon 1984:62):

(15)   nag-ta'ó'**ang**-lal«ke **ning**-libro **sa**-bab«ye   (Bikol)
        ACT-give SUBJ-man ACC-book DAT-woman
        'The man gave a book to the woman.'

Not all languages use case marking for denoting grammatical relations of NPs in a sentence. Instead, a fixed word order is used to signal the function of NPs, as is the case, for example, in Malay (Tallerman 1998:52-53); NPs are in bold, cf.:

(16) a.   **Saya** benci **dia**.   (Malay)
                I hate he/she
                'I hate him/her.'

     b.   **Dia** benci **saya**.
                he/she hate I
                'He/she hates me.'

4.3. Relationships within the Noun Phrase

4.3.1 Head-initial languages vs. head-final languages

"Languages tend to place modifying elements either consistently before or consistently after modified elements (or heads)," as Hawkins (1983:2) writes. That is, cross-linguistically, the head of a phrase shows a strong tendency to occur "in a fixed position in all phrases within a language" (Tallerman 1998:100). According to Tallerman (1998:100), languages where the head has a tendency to precede its complements (or modifiers) are classified as head-initial languages, whereas those languages where the head usually follows its complements are categorised as head-final languages.

Greenberg (1990 [1966]) has pointed out strong tendencies and stated several universals with relation to the head-modifier or modifier-head order in NPs. He (1990 [1966]:50-51) claims, for instance, that cross-linguistically, a general tendency for adjectives is to follow the noun, especially in languages which have a verb preceding the subject and the object (VSO), being thus prepositional languages.

As for demonstratives and numerals, their position is related to descriptive adjectives in individual languages (Greenberg 1990[1966]:51). This tendency is formulated in *Universal 18* by Greenberg (1990 [1966]:51):

> *Universal 18.* When the descriptive adjective precedes the noun, the demonstrative and the numeral with overwhelmingly more than chance frequency, do likewise.

An additional related observation is also noted (Greenberg 1990 [1966]:51-52):

> *Universal 19.* When the general rule is that the descriptive adjective follows, there may be a minority of adjectives which usually precede, but when the general rule is that descriptive adjectives precede, there are no exceptions.

This universal can be illustrated by such languages as Welsh and Italian (Greenberg 1990 [1966]:52).

"The order within a noun phrase is subject to powerful constraints," asserts Greenberg (1990 [1966]:52): "[w]hen any or all of the three types of qualifiers precede the noun, the order among them is always the same: demonstrative, numeral, and adjective, as in English, 'these five large houses.'" However, when any or all follow the head noun, the typical order is found to be the exact opposite: noun, adjective, numeral, demonstrative (Greenberg 1990 [1966]:52). A less popular order is exemplified by Kikuyu, a Bantu language of East Africa, which displays the order 'houses these five large' instead of the more common order 'houses large five these.' The order of different qualifiers within an NP is stated in the *Universal 20* by Greenberg (1990 [1966]:52):

> *Universal 20.* When any or all of the items (demonstrative, numeral, and descriptive adjective) precede the noun, they are always found in that order. If they follow, the order is either the same or its exact opposite.

A clear relation to the basic word order typology can also be observed in constructions of nominal apposition across languages, as Greenberg (1990 [1966]:53) writes. He formulates the emerging patterns of the constructions involving a common noun along with a proper noun in *Universal 23* (Greenberg 1990 [1966]:54):

4.3.2 Head-marking languages vs. dependent-marking languages

Languages show a tendency to mark either the head word or its dependent(s) with an affix or some other change in word form to signal the syntactic relationships in a phrase or clause (Tallerman 1998:104). Amongst languages which mark the relationships there are two major possibilities: the head may be marked (head-marking languages), or the dependent may be marked (dependent-marking languages). Some languages, it should be noted, exhibit both head- and dependent-marking constructions (Tallerman 1998:104).

Dependent-marking is found to predominate in the Indo-European family.[1] In German, for example, dependent object NPs of prepositions are indicated by a particular case: either by accusative, as shown in (17), or by dative, as in (18) (Tallerman 1998:104).

> (17)   für meinen Freund   (German)
>   for my:ACC friend
>   'for my friend'

> (18)   mit meinem Freund   (German)
>   with my:DAT friend
>   'with my friend'

Although in the examples above the noun *Freund* does not change its basic form, the determiners (*meinen, meinem*) do inflect for case, and are marked for gender (masculine).

Dependent-marking in head-final construction is exemplified in (19) from Chechen. Here the head, postposition *t'e* follows the dependent object NP *beera* to which the dative case-marker *-na* is attached (Tallerman 1998:105):

> (19)   beera-**na** t'e   (Chechen)
>   child-DAT on
>   'on the child'

Dependent-marking in possessive constructions could be illustrated by an example from Finnish. In (20), the syntactic relationship between a possessed head noun *kissa* 'cat' and the dependent possessor NP *tyttö* 'girl' is indicated by the genitive case marker *-n* (Tallerman 1998:107):

> (20)   tytö-**n** kissa   (Finnish)
>   girl-GEN cat
>   'girl's cat'

Dependent-marking in constructions of the noun plus a dependent adjective expresses the agreement of adjectival modifiers with various grammatical categories

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[1] Languages which could be classified as dependent-marking are, according to Tallerman (1998:110-111), as follows: German, Greek, Armenian, the Slavic languages (e.g. Russian, Polish, Czech and Bulgarian), the native Australian Pama-Nyungan family (Dyirbal, Yiding), the Northeast Caucasian languages (Chechen) and Dravidian languages (Malayalam).

that are inherent either in the noun (class/gender) or in the NP (number, case, definiteness) (Givon 1990:475). Example (21) is an illustration from Chadian Arabic where the adjective 'tall,' being dependent on the head noun, agrees with it in gender (Tallerman 1998:109):

      (21) a.   rajul tawîl   (Chadian Arabic)
                     man tall:MASC
                     'a tall man'

          b.   mara tawîla
                     woman tall:FEM
                     'a tall woman'

As for *head*-marking in the construction of the head noun and dependent adjective, this is not very common (Tallerman 1990:108). An example can be found in Persian (example 22) where the head noun *kûh* 'mountain' is marked by suffix *-e* for having a dependent, but the suffix does not encode any other grammatical information (e.g. gender, case); the dependent adjective *boländ* 'high' carries no marker (Tallerman 1998:108):

      (22)   kûh-**e** boländ   (Persian)
                   mountain high
                   'high mountain'

The marking of the possessive constructions in the head-marking languages is illustrated by example (23) from Saliba where the dependent noun *sine* 'woman' has no marking while it is the head noun *natu* 'child' that bears a suffix indicating a third person singular referring to the woman; literally, example (23) means 'woman child-her' (Tallerman 1998:107).

      (23)   sine natu-**na**   (Saliba)
                   woman child-3SG
                   'the woman's child'

Typical head-marking languages are, for example, Abkhaz (a Northwest Caucasian language) and the native American language Navajo (Tallerman 1998:110).

Another typological possibility, as noted by Tallerman (1998:110), is not to mark morphologically the relationship between the head and its dependent(s) at all. This is the case, for example, in Chinese and Vietnamese.

5 What is sign language

"It differs from other languages in one major respect of its features: it does not rely on spoken words."
J. G. Kyle & B. Woll, *Sign Language: The Study of Deaf People and Their Language*.

5.1 Introduction

Sign languages are complex visual-spatial languages used by deaf communities. There are many such languages, e.g. American Sign Language (ASL), French Sign Language (FSL), Japanese Sign Language (JSL), Swedish Sign Language (SSL), etc. Sign languages have their own historic origins around the world, develop along their own individual lines (Steinberg 1982:78), use different signs and sentence structure. Even if the same spoken language is used by different societies, e.g. English, the differences between sign languages used by deaf communities in these societies may vary to the extent of precluding mutual comprehension,[2] as happens between American Sign Language (ASL) and British Sign Language (BSL) (Crystal 1987:220).

Similarly to a spoken language, when a sign language becomes widely used it may undergo strong dialectical and regional variation. This can be observed, for example, in the case of American Sign Language which is used by over half a million deaf people, to many of whom it is a native language. The major factors contributing to variation are geographical, although the age at which the sign language is learned plays a crucial role, as well as the home environment (whether the parents are deaf), and the educational background of the signer. A further important variable is the extent to which the sign language has been influenced by the language of the majority (spoken language) in the society. For example, in the USA the dialect continuum of ASL ranges from those varieties which show no influence of spoken language to those that have been markedly shaped by the properties of English, especially by word order. Several pidgin varieties of signing also exist along this continuum (Crystal 1987:221).

As it appears, contrary to the common belief, there is no universal sign language. Although a sign form called Gestuno was developed by the World Federation of the Deaf for use at international conferences of deaf people, it is more a vocabulary of signs than a language (Nakamura 1999:1-2, BDA 1975). In Europe, a lingua franca under the name of the International Sign Language has been developed, but the attitudes of the deaf to using it are controversial (Nakamura 1999:1-2).

Sign languages use hand, face, head, or other body movements in a three-dimensional space as the physical means of communication (Steinberg 1982:73).

Signs can be articulated with one hand or two. In a two-handed sign, a distinction should be drawn between the active and the passive hand, or the strong and the weak hand (Engberg-Pedersen 1993:35-36). Also, signing can be right-dominant whereby the signer uses his/her right hand as the strong hand and the left hand as a weak hand, or left-dominant (here the signer tends to use his/her left hand as the strong hand and the right as the weak hand) (Engberg-Pedersen 1993:35-36).

The space of signing is bounded by the top of the head, the back, the space extending to elbow width on the sides, and to the hips; different points on the body serve as locations for hand configurations (see Figure 1 by Rodda & Grove 1987).

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[2] In fact, this is a rather strong statement, as Kyle and Woll (1985:162-172) point out. Although the extent of the mutual intelligibility is still unclear, communication is possible across different sign languages - perhaps due to the simplified language use and the willingness to communicate.

Vertical
Signing Plane

Forehead

Mid-Face

Cheek

Sagittal
Signing Plane

Lower Face

Throat

Upper Arm

Trunk
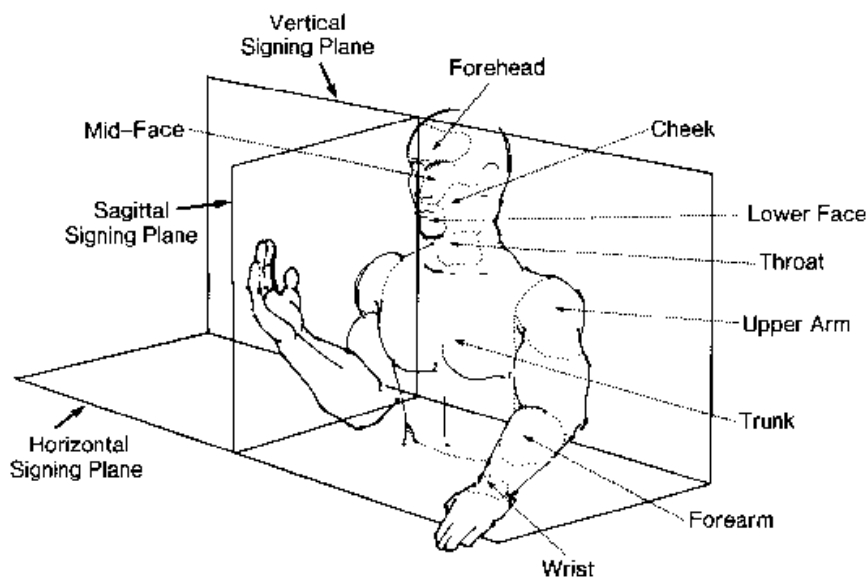
Horizontal
Signing Plane

Forearm

Wrist

Figure 1. The signing space and place of articulation signing parameter (Rodda & Grove 1987:132).

These points, however, are not evenly distributed: the greatest number of contrasting locations for signs are found on the face, that is, signs are not located at a great distance from the face when articulated (Kyle & Woll 1994:3893). This can be explained by perceptual constraint which affects the reception of signs, and by constraint relating to sign production (Kyle & Woll 1994:3893).

It should be emphasised that hand configurations form only ONE component of sign languages (this refutes the argument that sign languages are "gestural" languages), since facial expressions such as eyebrow motion and lip-mouth movement are not only used for conveying attitude and referring to objects through size, but also have a crucial part at the grammatical level, performing syntactic, indexic, or conversation regulatory (discourse) functions, (as well as morphological functions (cf. Davies 1985)). (For a full discussion of non-manual markers see Engberg-Pedersen 1990, Vogt-Svendsen 1990, Baker-Shenk 1985, Aarons et al. 1992, Ebbinghaus & Hessmann 1996). In a word, "a string of manual signs can mean different things depending on the non-manual marking that accompanies it" (Aarons 1994:41).

5.2 The structure of signs

Considerable attention has been paid in sign language linguistics to the internal structure of signs, and research in this field has established the existence of sign language phonology.[3] However, two fundamentally different ways of analysing the sign have emerged: one emphasising the simultaneity of the sign and the other the sequentiality of the sign. In the subsequent chapters these different types of sign analysis will be presented.

5.2.1 A simultaneous model

The first linguistic evidence that the signs of a sign language are something more than gestures which lack internal structure was presented by the American linguist William Stokoe in his seminal work *Sign Language Structure: An Outline of the Visual Communication System of the American Deaf* in the year of 1960 (Liddell 1984:373). Stokoe (1993 [1960]) argued that the signs of a sign language should be regarded as having an abstract sublexical structure similar or parallel to the one that underlies words in spoken languages.

In his analysis of signs in ASL, Stokoe (1993 [1960]) distinguished three aspects of the sign: *dez* (articulator), *tab* (place of articulation), and *sig* (articulation). According to Wallin's explanation (1994:3), "[t]he *articulator* is the acting hand/s assuming different handshapes, and orientation/s, i.e. how the hand/s is/are held in relation to the signer's body. The *place of articulation* is the position where the hand is acting and consists of either the space in front of the signer or a position on the signer's body. *Articulation* is the action of the hand and consists of various types of movement, directions of movement and types of interaction" (Wallin 1994:3). These three aspects comprise only a limited number of possible elements of each category, and a change in one of the aspects results in the change of the meaning of a sign. As an illustration, see the sign pair CUNNING and CAT from Estonian Sign Language (Figure 2):
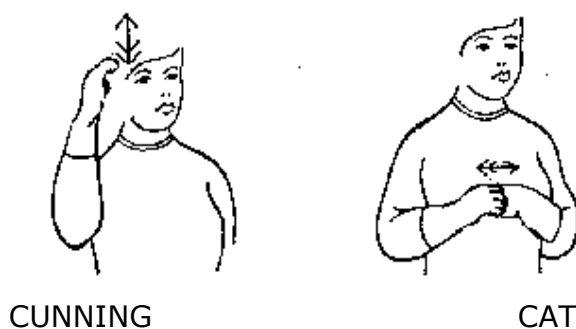

CUNNING   CAT

Figure 2. Difference in one aspect: place of articulation (Laiapea 1992:2102).

This pair demonstrates a difference in one aspect, the place of articulation, whereas the handshape (articulator) and movement (articulation) are identical. The difference in articulator (handshape) is demonstrated by the signs MOTHER and WOMAN from ESL (see Figure 3).

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[3] Despite the etymology of the word *phonology*, it is customary to talk about the phonology of sign languages. The term *cherology*, based on the Greek word meaning 'hand', has also been used, though the former is more widespread.
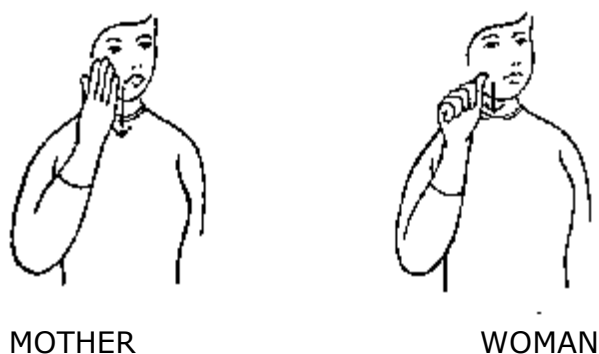
MOTHER   WOMAN

Figure 3. Difference in one aspect: handshape (Laiapea 1992:2102).

In this pair the movement (articulation) and location (place of articulation) are the same. Signs FATHER and RUSSIAN from ESL are identical, except for the movement (articulation) (see Figure 4).
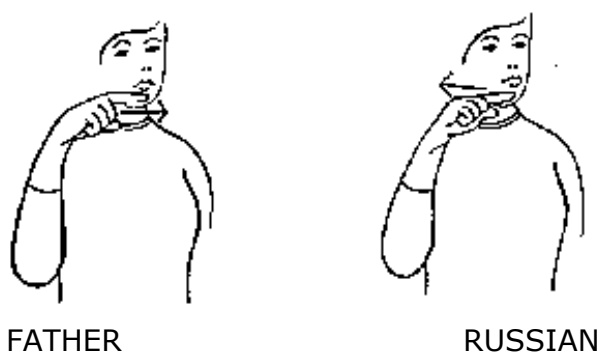

FATHER   RUSSIAN

Figure 4. Difference in one aspect: movement (Laiapea 1992:2102).

Stokoe's model (often referred to as the aspectual model) underlines the simultaneity of the three aspects, and each aspect "is a different way of focusing on the unit that is the sign" (Engberg-Pedersen 1993:38). In addition to this original model of analysing a sign, several other models describing the sign as mainly simultaneously organised have been proposed by linguists (cf. Klima & Bellugi (1979) [American Sign Language]). For instance, the *parameter model*, which is now regarded as traditional phonological analysis of signs describes the sign "as a simultaneous unit of items from different parameters" (Engberg-Pedersen 1993:36), including the place of articulation, handshape, movement of the hand/s, and orientation of the hand/s. The difference between the aspectual model and the parameter model is emphasised by Engberg-Pedersen (1993:37) as follows:

> [w]hereas the parameter model is an attempt of a phonological analysis of signed morphemes parallel to phonological analyses of spoken language morphemes, Stokoe based his analysis of sign forms on a recognition of the difference between a spoken and a signed morpheme.

5.2.2 A sequential model

Until the descriptions outlined by Liddell, the sequential nature of the sign was not given much attention in sign language research. Liddell (1984) 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. Liddell (1984:381) explains that, for example, the sign THINK in ASL was traditionally viewed as a simple sign consisting only of a single handshape (articulator), a single location for contact (place of articulation), and one motion

(articulation). Liddell argues, that the sign

THINK requires two activities to be carried out in sequence. First, the hand must move towards the forehead [movement - M.M.]. Second, it must come to a brief stop [hold - M.M.]. The motion without the stop is not sufficient for the sign to be well-formed; but these two activities cannot possibly be regarded as simultaneous.

Liddell (1984) also draws a parallel between his segmented theory of sign structure and the morpheme structure of spoken languages. In ASL, movements and holds are subject to restrictions on their sequencing just as vowels and consonants are in spoken languages. Liddell (1994:3916) writes that two-segment signs are overwhelmingly ordered MH rather than HM; three-segment signs have HMH as a dominant order; four-segment signs have MHMH as a dominant order. It appears that the morpheme structure constraints in ASL (and obviously in other sign languages as well) are as strict as in spoken languages.

Different models emphasising the sequentiality of the sign have been proposed since Liddell's original theory, cf. Perlmutter (1990) [American Sign Language], Liddell (1990) [American Sign Language].

5.2.3 Fingerspelling

The signs of sign languages are often confused with fingerspelling. Fingerspelling, it should be noted, is not a sign language, but "represents the standard written language through a series of hand configurations and movement" (Kyle & Woll 1994:3897). It is a manual alphabet representing the letters of a written language directly, that is, hand and finger configurations are used to indicate letters, "such as making a V with the index and middle fingers or an O with the thumb, and index finger" (Steinberg 1982:74). For instance, a word such as *about* would be signed letter by letter, *a, b, o, u, t*, following the English spelling. In this letter-by-letter method, words and entire sentences may be communicated whereas the order of letters is exactly the one that appears in the written language (Steinberg 1982:74). The main function of fingerspelling is to represent proper names, and 'foreign' words (Toom 1999:77), but it can also serve as a source for loan signs (Kyle & Woll 1985:124; for a discussion of the adaption of fingerspelled words into a sign language, see Kyle & Woll 1985:123-128, Engberg-Pedersen 1993:43-44). There are many different manual alphabets (and some syllabaries) in use over the world. Most of these are one-handed, e.g. American, Swedish, Russian, Estonian, Finnish, but, according to Kyle and Woll (1985:123-124), a two-handed system is used throughout Britain. (For examples of several manual alphabets, see Kyle & Woll 1985:123-128).

In addition to fingerspelling, special sign systems such as *Seeing Essential English, Signing Exact English, Signed English, Signed Swedish*, etc. are used for making a certain spoken language visible to hearing-impaired persons and for supporting the learning of it. In these systems, signs of sign languages designate an actual word meaning, but follow in signs the syntax of spoken words, and have supplementary signs for providing a particular grammatical device or feature which is not present in a sign language (Kyle & Woll 1985:34). For example, a sentence like *I asked mum about my grandparents* would have a sign for each English morpheme: *I + ask + PAST + mum + about + my + grand + parent + PLURAL* where tense and plural have separate signs.

5.3 Iconicity and arbitrariness of a sign

> One of the factors influencing the outsider's view of sign language is the obviously pantomimic origin of many signs. This iconicity, or pictorial quality, has been widely regarded as an indication that manual languages are in some way primitive, linguistically inferior, and crudely concrete (Rodda & Grove 1987:133).

The Saussurean emphasis on the arbitrariness of the link between the form of the linguistic symbol and its referent, as Kyle and Woll (1994:3892-3893) find, has strongly influenced linguists' views on sign language: the non-arbitrary relationships found in spoken languages (e.g. sound symbolism and onomatopoeia) were usually regarded as odd exceptions and marginal. By contrast, non-arbitrary relationships between the symbol and its referent occur rather frequently in sign languages, as if being a proof of the marginal nature of sign language as a human language (Kyle & Woll 1994:3892-3893). It should be emphasised, however, that although sign languages have a comparatively large proportion of signs which in some respect resemble what they represent, the relationship between a sign and its referent is as conventionalised as in spoken languages.

According to the relationship between the form of a sign and the referent, that is, "how the forms are motivated (or not) by extra-linguistic reality" (Bergman 1982:13), signs can be classified into several types. Following Bergman (1982:13-16), who adopts Lyon's version of semiotic triangle, the first distinction is made between arbitrary symbols/signs and motivated signs. The former "does not exhibit any similarity with the referent or cannot be explained with reference to any property of the referent" (Bergman 1982:13). In ESL, the sign WOMAN (see Figure 3) serves to illustrate this kind of relationship. The latter - motivated signs - are motivated by the referent and thus have a non-arbitrary, or iconic relation with it. Deictic signs which refer to their referents by pointing are also motivated by their referents and so constitute the second type of motivated signs (Bergman 1982:13). In ESL, for instance, such signs as NOSE, HEAD belong to that type of motivated signs.

Bergman (1982:13) also draws a distinction between a direct and an indirect motivation of forms. According to her (Bergman 1982:13), an iconic sign such as BALL in SSL is directly motivated by the referent as the form of the sign reproduces the shape of the ball. The sign ELEPHANT in SSL would be indirectly motivated, since it is the shape of the trunk which is reproduced by the form of the sign. The trunk should be regarded as the base of the sign (after Schlesinger). Strategies which have been suggested for the choice of the base are as follows: "a strong tendency to person-centricity, part of the whole, and the use of a "concrete paraphrase" (as in EMPLOY where the hand "takes hold of a person and puts him in the palm of the other hand")" (Bergman 1982:13-14).

A further classification of iconic signs can be made with respect to whether "the aspect of articulation is iconic to a shape, a movement or a relationship" (Bergman 1982:14). This could be illustrated by shape-reproducing signs from ESL: BALL, EGG, HOUSE, TABLE; by movement-reproducing signs such as WAVE, APPLAUD; relationship-reproducing signs are ON, BELOW. (For a more detailed discussion of the iconicity of signs, see Bergman 1977/1979:95-113, 1982:13-16, Klima & Bellugi 1979:9-34, Haukioja 1991:123-140). Although signs tend to have visual imagery underlying their adaption into the language, "they still function as linguistic units rather than as simple pictures (in the same way as onomatopoeic words in a spoken language are part of the language and obey phonological restrictions)" (Kyle & Woll 1985:123).

Furthermore, language change frequently diminishes the iconic properties of signs4: some signs become more opaque over time, some completely arbitrary (Klima & Bellugi 1979:34). "Grammatical operations that signs undergo can further submerge iconicity" (Klima and Bellugi 1979:34), as a result of which a signer may not be aware of the iconic origin of a sign at all. This is particularly the case of children's sign language acquisition, as pointed out by Haukioja (1991:138), because "what is iconic to adults is not always iconic to young children," and "there may not even be much visual iconicity available to toddlers" (Haukioja 1991:138). (For the discussion of the role of iconicity in sign language acquisition, see Haukioja 1991).

In other words,

> [s]ign language makes use of the dimensions of the spatial mode, which spoken languages lack, in creating visible shapes moving in space which reveal their mimetic origins yet are systematically and formationally constrained (Klima & Bellugi 1979:66).

5.4 The use of signing space

In the preceding chapters we have primarily considered the signs of a sign language. This chapter attempts to give an overview of the main organisational principles operating within signing space, and of locations that can be established in the space for identifying different sentence elements and semantic functions.

5.4.1 Time relationships

Dividing the signing space along the vertical plane near the signer's ear and cheek into neutral, further forward, and further back areas (or locations) enables the signer to express time relationships such as present, future and past, respectively.[4] These areas serve to indicate tense forms and can be used for forming time adverbs (Crystal 1987:222). A time adverb (or adverbial modification) is considered to be the most common way of showing tense or time relationships in sign languages, e.g. TOMORROW I COOK, YESTERDAY I COOK etc. in BSL (Kyle & Woll 1985:142). Signs such as FINISH in BSL and READY (FINISHED) in ESL can signify both past time as well as the completion which is implied in these signs, e.g. I EAT READY 'I have had my meal.' However, in addition to time adverbs, a number of signs which appear to inflect for tense in a way similar to English irregular verbs have been identified in BSL (i.e. suppletive verbs) (see Kyle & Woll 1985:143).

It should be noted that aspectual modulation, that is, whether an action is complete, habitual or continuous (aspect) is shown in all sign languages studied so far, but we will not concentrate on this in the present paper (for a detailed account, see Bergman 1982:17-19, Kyle & Woll 1985:144-150, about aspectual modulations on adjectival predicates, cf. Klima & Bellugi 1979).

5.4.2 The relationship between space and grammar

In addition to the use of points (or locations) in signing space designating time, a combination of conventionalised, relative and real locations is exploited to convey information about role. The notion of 'role', according to Kyle and Woll (1985:136), "involves both inflections for case (the description of subject, object, indirect object, etc.) and other devices by which the relationship between the participants mentioned in a sentence is made explicit."

While using the *real location* a signer may point to, or otherwise indicate (e.g. by eye-gaze) objects, directions, locations (Kyle & Woll 1985:136). In *relative locations*, a signer establishes points in the signing space to create an image of some other location (Kyle and Woll 1985:136). For instance, while describing the interior of a house, the position and orientation of objects in the room will be indicated by locating them on a miniature 'floor plan' which is drawn in the space in front of the speaker (Kyle & Woll 1985:138). Locating itself is performed either by "producing the sign for the object and then pointing to the location on the 'plan', or by articulating the sign in the appropriate location" (Kyle & Woll 1985:138).

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[4] "This notion of past time as 'behind' and future time 'ahead' finds parallels in most European spoken languages, where time and space are connected in the same way" (Kyle & Woll 1985:143). For example, in Estonian we can use the expression *see nädalaid kestnud arutelu on nüüd seljataga* (literally, 'this for weeks lasted discussion is now behind back') or *eesolev/ootav külaskäik* (literally, 'ahead being/waiting visit'). There are also cultures where time reference and space may have an opposite relationship, e.g. in Urubu Kaapor Sign Language (among Brazilian Indians), in Japanese Sign Language, etc. The past is located in front of the signer and the future behind, probably representing a world view of the past as something visible, and the future as unknowable (Kyle & Woll 1985:144).

The third use of space is *conventionalised location* which, first of all, serves to distinguish sign pronouns or person reference points in different spatial areas. For example, the main person reference points of ESL, those for 1st, 2nd and 3rd person singular consist of the following positions in space: near or at the signer's body: 1st person; in front-centre, i.e. away from the signer, in the direction of the addressee: 2nd person; one 3rd person is signed to the front-right, another to the front-left. These positions correspond to the pronouns for the 1st, 2nd and 3rd person singular, respectively.

Conventionalised locations, as pointed out by Kyle and Woll (1985:138), "can be overridden by real or relative locations where available." However, once a sign designating a person or an object is placed in a certain position, this position is normally reserved for that sign for the remainder of the conversation. Thus the signer does not have to produce the same sign again, as it suffices to refer to it by pointing in the direction (indexing), or looking in that direction, where it was placed before (anaphoric reference).

Another use of conventionalised locations is with respect to verb inflections (BSL, ASL as well as other sign languages are considered to be highly inflected languages; see, for instance, Kyle & Woll 1985, Klima & Bellugi 1979). Verb behaviour for person and grammatical roles is defined according to conventional person reference points where the verb arguments are, or can be established, and thus mark pronominal (mainly anaphoric) and verb agreement (Pizzuto 1986:20) (the latter will be shortly discussed in Part II, 6.4).

On the whole, it has been observed

> that the space around the signer's body has different dimensions at each level of analysis, from phonological space (phonemically contrastive locations), morphological space (agreement morphology) to syntactic and discourse space (indexing and anaphora) (Padden 1990:131).

5.5 Sign language in Estonia

In Estonia, the first historical accounts of deafness and the problems related to it originate from the 17th century (Kuulmisrehabilitatsiooni programm, projekt 1996:17). The teaching of the deaf in Estonia is said to have begun at the beginning of the 18th century in Pärnu (Kotsar & Kotsar 1997:67). Nevertheless, ideas about founding a school for the deaf in Estonia spread more than one hundred years after the first school for the deaf was established in Paris in the 1770s (1760), by Abbé Charles Michel de l'Epée. A local pastor, Ernst Sokolovski (1833-1899) can be regarded as the founder of the teaching of the deaf in Estonia. It was under his guidance that the first school for the deaf was opened in Vändra in 1866 (Karu 1936:4-7). From that time on we can speak of continuous teaching of the deaf in Estonia: a boarding-school existed in Vändra for 60 years (1866-1924), which was moved to Porkuni in 1924 and has been educating the deaf until now. In the autumn of 2000, this school will not admit deaf children any more (EKLVL 1999:6), as the Tallinn Deaf School, which was opened in 1994, has taken over its function. Tartu Hiie School (which separated from the Porkuni Deaf School in 1941) also continues teaching the deaf.

Until the 1990s the teaching method in Porkuni was purely oral and a strong opposition to signs and the possibility of a sign language prevailed.[5] It was the auditory training and lip-reading which held a prominent place in educating the deaf; the communication system among the deaf was considered to be a spoken language which was only supported by signs.

At the beginning of the 1990s, Vahur Laiapea and Ave Paat (then known as Ave Laiapea) began to take interest in the communication system used among the deaf themselves in Estonia. They succeeded in raising awareness that this communication system is a linguistically complete language, and the native language of many deaf people. Their contribution to creating contacts with sign language researchers in other countries, and to bringing to Estonia a more modern approach to the sign language cannot be overestimated. Of great importance is also the fact that in 1994, with the opening of the Tallinn Deaf School, a bilingual teaching method (i.e. the acquisition of the Estonian language and school subjects through the sign language) was put into practice under the direction of Ave Paat (the Director of the Tallinn Deaf School).

Considering the fact that sign language was not accepted in the educational environment until the 1990s, it is difficult to speak of an 'Estonian Sign Language.' Vahur Laiapea (manuscript of an unpublished M. A. thesis) writes that it is very likely that the sign language which is used by the Estonian deaf community nowadays began to develop with the opening of the first school for the deaf in Vändra in 1866 as a result of constant communication between the deaf themselves.

According to Regina Toom (in personal communication, 27.01.2000), there exists a great variation of signing in Estonia, ranging from the oral speech supported by signs to varieties which have markedly been shaped by the properties of the Estonian language, particularly by word order. However, according to my own

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[5] The teaching method is still oral at Tartu Hiie School, although Total Communication (i.e. signs and speech used together in classroom activities) is allegedly being used. It is of importance to note that in this school the term 'total communication' stands for the speech visualised with signs.

experience, there seems to be a variety of signing which shows little influence of Estonian (especially with regard to signing between the deaf themselves).

Unfortunately, at present there is no description of any of these varieties, and the overall knowledge of the rules which govern the combining of signs into sentences is very limited. This does not mean, of course, that people to whom sign language is their first language, or people for whom sign language is the primary means of communication, do not know how to sign: they know the rules intuitively and use them when signing. Still, the grammar rules of ESL should be described in order to work out a method of teaching ESL (which at the moment is lacking (EKLVL 1999:5; Laiapea 1990)).

Although in his M. A. thesis on ESL Vahur Laiapea gives an overview of the main structural features of ESL, there is still no thorough description of ESL.[6] Thus, *Estonian Sign Language exists in reality, but is unstudied in linguistic terms* (Laiapea 1990:35).

Furthermore, Estonian Sign Language, unlike, for example, Swedish Sign Language, Finnish Sign Language, Lithuanian Sign Language, does not have an official status as a language yet. That is, officially the deaf in Estonia are regarded as linguistically challenged and not as a language minority (Laiapea 1990). (See a discussion about the status of ESL in Laiapea (1990:34-37); also an overview of the self-determination of the deaf in Estonia in Paavel & Toom (1991:616-629)).

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[6] See Vahur Laiapea's introduction to sign language linguistics illustrated with examples from ESL (1992), also about the types of motivated signs in ESL (1993).
  Toom has been the author of several exercise books (e.g. 1999, 1990), and of two glossaries (1989, 1990).

Part Two: The noun phrase in Estonian Sign Language

The aim of Part II is to assess whether and how the noun phrase in Estonian Sign Language signals grammatical categories such as number, gender/noun class, definiteness and case already observed in spoken languages in Chapter 4.2. The objective is also to review how the syntactic relationships between the modifier and the modified elements in the ESL noun phrase are marked: the focus will be on the genitive/pronominal, the genitive/lexical as well as on the adjectival modification. Whether the noun phrase modifiers in ESL yield ordering constraints vis-à-vis each other will also be observed.

6 Grammatical categories for ESL nouns

6.1 Number

This chapter is concerned with number marking in the ESL noun phrase. It serves to describe how the number information is signalled (types of number marking) and where the indication for number is likely to appear (the locus of number marking). The position of the numeral and quantifying modifiers pertaining to the head noun will also be considered.

6.1.1 Types of number marking

The formal means which spoken languages use to signal number distinctions are many and varied, and several types may be found within a single spoken language (see 4.2.1). According to Kyle and Woll (1994:3899), those sign languages which have been studied so far exhibit three types of number marking, or three mechanisms for the formation of plural forms of nouns: reduplication of movement, reduplication of handshape, and addition of a quantity marker. It has also been pointed out that apart from a few exceptions, most signs can be pluralized in only one of these ways (Kyle and Woll 1994:3899). The data in the present study of Estonian Sign Language include examples of all these types of number markers, as well as examples which signal the plural in nouns by mouth pattern.

The pluralization of nouns by the *reduplication of movement* involves the repetition of movement with a slight shift of location for each repetition. The number of repetitions, however, is attributable to individual signing styles but not for expressing a certain number. ESL signs for child, PERSON, house, chair, etc. are marked for plural with a slight shift of location for each repetition, as for example:

> (24) PERSON[PL: reduplication of movement] CINEMA GO
> 'People are going to the cinema'.

Number marking by reduplication may consist of signing the same sign several times in the same spatial location, e.g. the ESL sign for brick (see example (40)) carries this type of number marker.

As a means of pluralization, reduplication is a frequent and iconic way of showing singular/plural contrast in spoken languages as well (Cruse 1994:2859). For instance, in the Indonesian language the whole stem of a noun is reduplicated: *buku* 'book,' *buku-buku* 'books' (Cruse 1994:2859) (for more examples, see 4.2.1).

The second most common type of number marker, the *reduplication of handshape*, involves the articulation of a one-handed sign with both hands. This occurs, for instance, in such ESL signs as Root, ear, etc. Often not only singular/plural contrast, but a finer distinction for singular/dual is encoded by this way of pluralization of nouns, especially in the case of signs for body parts (ears, eyes, eyebrows, etc.), but is not restricted to them. Consider examples (25) and (26) where the signs are marked for number 'two' by the reduplication of handshape:

> (25) BARROW SQUARE WHEEL[DUAL: repetition of handshape]
> 'a two-wheeled barrow'
>
> (26) SERVANT BAG[DUAL: repetition of handshape]
> 'The servant has two bags.'

Displacing several repetitions of a sign in signing space serves to signal number distinction as well. Nouns which have been assigned a location in signing space are "countable" by virtue of the number of times they are placed in the space. For instance, 'three piglets' in example (27) is marked for number 'three' (trial) explicitly:

> (27) THREE PIG_SMALL[TRIAL: placed thrice in the signing space]
> 'three piglets'

The third most common way of marking number in the ESL noun phrase is the use of a separate sign expressing numerosity, a *quantifier* such as MANY/MUCH, ALL, VARIOUS, or a *numeral*. This type of number marking is likely to co-occur with nouns/signs that cannot reduplicate either handshape or movement due to their derivational origin and formational properties (see also 6.1.3). For instance, such ESL signs as BIRD, ROBOT, HORSE, etc. require a quantifier or a numeral to be marked for number distinction. Again, this way of number marking can be found in spoken languages: grammatical information concerning numerosity must be conveyed by lexical items such as *khlah* 'some,' *pii-bey* 'a few,' etc. in Khmer, a language where neither nouns nor verbs carry any number information (Cruse 1994:2857).

Nevertheless, on the basis of the present data, two patterns of number marking in relation to quantifiers and numerals occur: either the number information of the noun is expressed by a quantifier or a numeral and the noun itself does not carry any overt number marker, or the plural marker is attached to the noun even after numerals.

First, if an overt number marker cannot be attached to the noun itself, the number information is expressed only by a numeral or some other expression of numerosity. As an illustration see the following examples; quantifiers and numerals are in bold:

> (28) **ALL** BIRD[SG]
> 'all birds'
>
> (29) **TWO** FRIEND[SG]
> 'two friends'
>
> (30) FLOWER [SG] **MANY** (I-HAVE)
> '(I have) many flowers'

(31) **TWENTY** MINUTE[SG]
　　　'twenty minutes'

With reference to the example (31), it should be noted that in the case of signs with temporal meaning (i.e. MINUTE, HOUR, MONTH in ESL), a handshape indicating a numeral from two to nine (i.e. number classifier) may be inserted into the sign.

The second pattern of number marking in relation to numerals and quantifiers displays concord between the numeral and the noun marked for plurality, as for example:

(32) SIX PERSON[PL: reduplication of movement]
　　　'six humans/persons'
(33) TWELVE CHAIR [PL: reduplication of movement]
　　　'twelve chairs.'

The sign for quantifier VARIOUS appears to be deceptive, or to have several functions. It always follows an enumeration of nouns in the present data, thus leaving an impression of a plural marker, but might actually be interpreted as serving to create a superordinate category. See example (34):

(34) NECKLACE RING **VARIOUS** CASKET TAKE-FROM-HANDLE
　　　'[Marina] takes (the) jewel case/box.'

In this example we can see that a separate lexical element expressing numerosity, the sign for VARIOUS, follows the enumeration of two items. However, instead of marking these items for singular/plural contrast, it appears to form a concept for 'jewellery' in this particular context by transforming 'necklace' and 'ring' into a superordinate category which refers to a wider class possessing fewer concrete, obvious attributes. Thus, when preceding the sign for CASKET, the sign VARIOUS appears to create a compound standing for a 'jewel case'. In principle, one of the functions of the sign for VARIOUS could be to create a concept which lies at a different level of generality in the semantic hierarchy, a superordinate category, by compounding two or three basic level signs selected from prototypical exemplars.

For comparison, a similar mechanism for creating superordinate categories together with a sign for ETCETERA (ETC.) has been pointed out by Klima and Bellugi (1979:230-236) in their description of signs in American Sign Language. For instance, CLARINET-PIANO-GUITAR ETC. stands for a musical instrument, and APPLE-ORANGE-BANANA ETC. for fruit.

However, in example (35) the sign VARIOUS could either mark elements for plural, or for a more general concept 'vegetables.' In a discussion about that particular example, both interpretations were given despite the fact that a separate sign for VEGETABLES exists in ESL, cf.:

(35) (FIELD LAND THERE) POTATO YELLOW ROOT CARROT VARIOUS (PULL-OUT EMPTY)
　　　'The field is bare of potatoes, turnips, carrots.'
　　　/ 'The field is bare of vegetables'

One type of number marker which probably occurs due to the influence of the Estonian language is the *mouth pattern*. That is, while signing a basic sign form standing for the noun, the mouth picture follows the pattern of uttering the nominative plural case-ending in Estonian, -d. As an illustration, see example (36) where it is only the mouth which marks the noun (ANIMAL, BIRD) for plural:

> (36) *hands:* ANIMAL[SG] BIRD[SG] LETTER[SG] OPEN
>   *mouth:* loomad linnud
>   animal-PL bird-PL
>   '(The) animals and birds opened (the) letter.'

In order to explain which particular type of inflection for number distinction a sign is likely to undergo (if any at all), one has to concentrate on the morphology of signs which remains beyond the scope of the present study (however, see 6.1.2).

6.1.2 The locus of number marking

Unlike spoken languages where the category of number is considered to be inherent in the noun, or at least in the noun phrase, in Estonian Sign Language the principal signal of number may appear either in the noun phrase or in the verb phrase.

If the noun phrase is overtly marked for number distinction in ESL, then, according to the data of the present study, the number marker is likely to occur only at the head noun of the NP. Adjectives functioning as modifiers of the head noun do not carry any overt number marker, thus exhibiting no number agreement with their heads. Consider example (37) where the head noun EYELASH is marked for number (dual), but the modifying adjective BEAUTIFUL appears in uninflected form:

> (37) GIRL EYELASH[DUAL: repetition of handshape] BEAUTIFUL
>   '(The) girl has beautiful eyelashes.'

In example (38), the head noun EAR is marked for dual, whereas the following adjective SHARP has no distinction for number:

> (38) SQUIRREL EAR[DUAL: repetition of handshape] SHARP
>   'The squirrel has sharp ears'

In this sense, ESL resembles, for example, English where adjectives are not affected by the number of their head, and differs, for instance, from Estonian where a high degree of agreement in number occurs throughout the phrase.

However, characteristically of sign languages studied so far, ESL also shows simultaneous modification. In that case, the adjectival modifier is inserted into the articulation of the sign, and thus number information appears both on the noun and the modifier simultaneously; see, e.g. nominal object (ROOT-LONG[PL]) in example (39):

> (39) JUNIPER BUSH ROOT-LONG[PL: repetition of handshape]
>   '(The) juniper has long roots.'

Another possibility for the locus of the number marker in the ESL noun phrase is, except for the noun itself, a classifier (more precisely, size-and-shape specifier (SASS)). The SASS, according to the data of the present study, appears to form a compound (or a new concept, see also 6.2) together with the primary ESL noun sign. Therefore, if a noun sign and a size-and-shape-specifier occur simultaneously, the tendency is for the number marker to appear on the latter. In the following examples, size-and-shape specifier is indicated by the prefix *SASS*, (see also example (27) where the sign SMALL is SASS), cf.:

(40) STONE *SASS*:SQUARE[PL: repetition]
'bricks'

(41) PEA *SASS*:THIN-CYLINDRICAL-LONG[PL:repetition]
'pea pods.'

In Finnish Sign Language it is also the case that the affixing of classifiers is used for expressing the plural of signs which stand for "objects of certain shape (thin and long, flat and rectangular or cubic objects; e.g. sticks, pictures or houses respectively)" (Rissanen 1986:45).

In ESL, it is not always the noun phrase that serves as a locus for number marking. An overt number marker may appear in the verb phrase instead: the distinction 'one' versus 'more-than-one' is signalled by the verb form inflected for plurality. Consider example (42) where the nominal object (FLOWER) does not carry any overt number marker, but the following verb (PLANT) expresses the singular/plural contrast of its argument:

(42) FLOWER PLANT[PL: repetition]
'(I'm) planting flowers'

The same sentence in singular would be as follows:

(43) FLOWER PLANT[SG].

The grammatical signalling of number on the noun is often left unmarked in American Sign Language as well: "in some contexts the noun object may appear in uninflected form while the verb carries the burden of specification for number" (Klima & Bellugi 1979:281). In comparison, consider the following examples from ASL; in the square brackets N stands for a noun, and 'multiple' refers to the verb form inflected by repetition:

MAN, (ME) ASK 'I asked the man'   (ASL)
MAN, (ME) ASK[N: multiple] 'I asked the men'

Another example from ESL, example (44), may be used to illustrate how the nominal object (BEAR BERRY) is marked covertly for number distinction by the verb inflection:

(44) CROW BIRD BEAR BERRY ROUND-SMALL TAKE-ONE-BY-ONE-WITH-BEAK[PL: repetition]
'A crow is pecking/eating gooseberries.'

The role of number marking can solely be taken on by the verb also in the case of some nominal subjects: the distinction for 'one' versus 'many' is determined by the internal changes in the form of the verb. Consider example (45), where the nominal subject (CRANE) has no overt number marker. Instead, the verb (GO) indicates plural:

(45) CRANE SOON GO[PL: repetition of handshape] SOUTH LAND FLY
     'Cranes will fly to the south soon.'

For comparison, in Estonian and in English, for instance, the distinction between singular and plural is obligatorily marked on nouns: it is not grammatically correct to leave the number of a nominal subject unspecified. See example (46) from Estonian and example (47) from English:

(46) a. Kured hakkavad lõunamaale lendama   (Estonian)
        crane-PL begin-PL south-to fly
        'Cranes will fly to the south'
     b. *Kurg hakkavad lõunamaale lendama
        crane-SG begin-PL south-to fly
(47) a. Cranes[PL] are going to[PL] fly to the south   (English)
     b. *Crane[SG] are going to[PL] fly to the south

When deaf informants were asked to sign the sentence 'A crane will fly to the south soon', the sign for number ONE was signed before the sign for CRANE; the verb GO was signed as unmarked for number. In example (48), an overt number marker does not appear either on the noun (CRANE) or on the verb (FLY). Rather the number is to be determined by the context, or is encoded covertly in the sign for MOVE-IN-V-SHAPED-FORMATION, cf.:

(48) CRANE FLY IN-V-SHAPED-FORMATION-MOVE
     'Cranes are flying in V-shaped formation.'

We can see from the examples presented so far that Estonian Sign Language does not show agreement in number in the noun phrase and sometimes not even in a clause, or at a sentence level. If the verb carries the specification for number, an unmarked singular form of the noun may be used optionally with plural reference. For the number marker to appear on the verb seems to be typical of sign languages (as research on different sign languages shows), but relatively uncommon to spoken languages, as pointed out by Cruse (1994:2859). A spoken language called Miriam is said to follow this pattern: "the verb in Miriam encodes the number of its subject (a four-way singular/dual/trial/plural contrast) and its object (singular and plural only)," e.g. *irmile* means 'one follows one,' *irmirdare* means 'three follow one,' and *dirmirei* means 'two follow many,' etc. (Cruse 1994:2859).

In the case of a sign language, however, we have to take into account the different modality of sign production and mechanisms for expression. Whereas in Estonian, for example, we can mark the singular/plural distinction for nouns in the nominative simply by adding *-d* to the base form in genitive singular, in sign languages the formation of plural forms of nouns is related to their derivational origin and formational properties. That is, signs with a repeated movement in citation form, with continuous contact between the hand and a body part, and nouns which are formed by a derivational process from verbs tend not to inflect for number by

reduplication (Kyle & Woll 1994:3899). The latter is one of the types of number marking in sign languages (see 6.1.1), and thus other means or different loci should be used to signal number information.

6.1.3 The position of the numeral and the quantifier vis-à-vis the head noun

Provided that a handshape indicating number is not inserted into a noun sign (as tends to be the case if we consider signs with temporal meaning, e.g. month, year, hour, minute, see 6.1.1), then, according to the present study, numeral modifiers and certain quantifying modifiers such as all, each/every, occur in the pre-nominal position in ESL noun phrases. The following examples serve as an illustration; numeral and quantifying modifiers are in bold:

> (49) GIRL **TWO** FRIEND INVITE
> 'The girl is inviting two friends'

> (50) LATE FUTURE **2027** YEAR WORLD WAR
> 'far in the future, in the year of 2027 when there will be a world war'

> (51) **HALF** HOUR SOON GO
> 'in half an hour I'll go'

> (52) **THREE** WEEK
> 'three weeks'

> (53) **EVERY** YEAR
> 'every/each year'

However, while discussing the position of numerals in ESL, one of the deaf informants of the present study claimed that one should sign first *what?* and then how *many?*, that is, the head noun should precede the numeral, and the numeral itself occurs as post-nominal modifier (noun - numeral, as in example (54)). Only when answering to the question *how many (chairs/pictures, etc.)?* do we have the numeral as a pre-nominal modifier (numeral - noun, as in (55)):

> (54) CHAIR[PL] THREE
> ? 'three chairs'

> (55) THREE CHAIR [PL]
> 'three chairs'

Having said this, I am inclined to think that in general numeral modifiers precede their heads in Estonian Sign Language, but when the numeral follows the head noun, it acquires the function of a predicate. This is also the reason why I have marked the translation of the example (54) with a question mark: in my opinion, the translation should be '*chairs are three*' (i.e. '*there are three chairs*'). However, further research should be carried out in order to prove the validity of my argument.

6.2 Noun class

In 4.2.2, above, we noted that in the case of spoken languages, the grammatical category of gender or noun class may be marked on the noun itself as, for example, in Spanish or Italian where the morphological markers on nouns serve to signal feminine and masculine gender/noun class overtly. We also noted that in some languages, e.g. in German or French, gender appears on the articles.

Estonian Sign Language, in contrast, does not mark nouns for belonging either to masculine or feminine class. Instead, it exhibits nominal categorization realised by a set of signs which covers a variety of semantic domains (e.g. shape, size). According to the present data, these signs typically follow the noun in the noun phrase and either name the class to which the entity denoted by the noun sign belongs, or indicate some fundamental or characteristic feature of the entity which the preceding sign denotes. Henceforth we will refer to these signs as *noun classifiers*. As an illustration, consider example (56) where the sign for SHAWL is followed by a sign glossed as SQUARE; the latter is produced with index fingers outlining a vertical square. (The gloss under consideration is marked with initial CL ('noun classifier')):

>   (56) WARM SHAWL CL:SQUARE (TO-PUT-OVER-SHOULDERS)
>   '[Marina] put a warm shawl over her shoulders.'

In example (57), the noun sign PARK is followed by a sign glossed as AREA, also produced with index fingers, but outlining a horizontal squarish-roundish shape:

>   (57) ESCAPE PARK *CL*:AREA (THERE READY HORSE SLEIGH)
>   '[the girl] escapes to the park where a horse and a sleigh are
>   waiting.'

Another example could be brought to illustrate overt classification on the basis of shape and size: in example (58), the sign FISHING-ROD is followed by a sign classifying it overtly according to its salient property, cf.:

>   (58) FISHING-ROD *CL*:LONG-THIN (FISH-CATCH)
>   '(to catch fish with) (a) fishing rod.'

The present data also displays noun phrases where signs for proper names are followed by signs denoting a superordinate category of the preceding sign. See example (59), where the sign JUNIPER is overtly categorised as 'bush':

>   (59) JUNIPER *CL*:BUSH (ROOT-LONG[PL])
>   'The juniper has long roots.'

As we can see from the examples presented above, entities denoted by lexical items in ESL noun phrases are overtly marked for shape and size.

With respect to the classification on the basis of shape and size by size-and-shape specifiers (SASSes), we could state that this type of classifier also serves to create new concepts; especially when accompanied by a certain mouth pattern, as for example:

(60) *hands:* PIG *CL*:SMALL
     mouth: põrsas
          piglet
          '(a) piglet'

(61) *hands:* HEN *CL*:SMALL
     mouth: tibu
          chicken
          '(a) chicken'

The idea of forming a new concept is supported by the context of the example (61) where, in addition to the noun classifier indicating size and shape, an adjectival post-modifier denoting size (TINY) occurs in the narrative:

(61') ONCE LIVE HEN *CL*:SMALL TINY
     'Once upon a time there lived a small chicken.'

A noun classifier which marks the nominal superordinate category (or noun class) of its preceding noun sign is exemplified in (62). In that example, the sign for the name of the bird CROW is immediately followed by a classifying sign BIRD. In the same example, the signs denoting 'gooseberry' are marked overtly for shape, viz., 'ROUND-SMALL':

(62) CROW *CL*:BIRD BEAR BERRY *CL*:ROUND-SMALL TAKE-ONE-BY-ONE-
     WITH-PEAK[PL]
     '(A) crow is pecking/eating gooseberries'

On the basis of the present data, the use of noun classifiers suggests that marking nouns as belonging to a certain semantic class *per se* might not be their primary or only function in ESL. In the data of the present study they are likely to occur when a new discourse referent is introduced and they appear to provide an explanatory feature of the (new, or supposedly unknown) noun/sign. (Furthermore, we cannot ignore the fact that half of the data is taken from the videotaped narratives for primary school children.) The sign for the noun CROW (in (62)) was used without a noun classifier when the adults communicated with one another, and the noun BARROW in (25) is not normally accompanied by a sign indicating shape (i.e. noun classifier) unless the shape is emphasised, according to one of the informants.

The tendency for noun classifiers in ESL noun phrases to occur when a new entity or a new topic is introduced into the discourse could be illustrated by the following examples. The example (63) comes from the narrative where an account of the main events of a signer's favourite film was given, and serves to exemplify how one of the participants is introduced into the discourse:

(63) T-THOUSAND *CL*:ROBOT (HUMAN-LOOKING SHINING)
     '(A) robot, (named) T-Thousand, has the appearance of a human being and it shines'

In the subsequent discourse, the sign which functions as the classifier, ROBOT, is omitted and the proper name is presented alone; indicated in bold, cf.:

(64) FACTORY THERE (HUMAN-)FROM-HIGH-FALL-DOWN **T-THOUSAND** FROM-HIGH-FALL-DOWN MELT
'In the factory, the T-Thousand falls down from on high and melts away.'

On the whole, it seems that exploring the discourse functions of noun classifiers in Estonian Sign Language can provide us with interesting results. These results will probably prove more interesting when compared to similar studies carried out on other sign languages and on those spoken languages which have extensive noun class systems. For example, Bergman and Wallin (1998) have studied the discourse function of noun classifiers in Swedish Sign Language, the results of which are in line with the findings that Hopper has pointed out in Malay, the spoken language with noun classifiers. Namely, Hopper shows that in Malay noun classifiers "give nouns a prominence in the discourse and that a classifier can be seen to "foreground" (in some imprecise sense) physical objects and indicate that they are PART OF the discourse rather than incidental props" (Bergman & Wallin 1998:8).

As for noun classifiers in Swedish Sign Language, Bergman and Wallin (1998:8) write that "they are used in noun phrases that are referring and specific, and only when introducing important discourse referents that are likely to be mentioned again."

A proposal for future research then is to carry out a similar discourse analysis of noun classifiers in the ESL noun phrases in order to observe whether the tendencies pointed out on the basis of the present data are in line with what has been found in other sign (and spoken) languages.

6.3 Definiteness

In Estonian Sign Language, definiteness is marked by independent lexical elements, that is, by pointing signs made by pointing with the index finger. These signs, in fact, display a variety of uses: they can function either adverbially for identifying locations in signing space, or constitute pronominal reference if standing alone in a noun phrase (see 5.4.2). In this paper, the pointing signs which occur with nouns in noun phrases rather than replace them, are glossed as INDEX. If indexes appear with nouns in a noun phrase they serve to modify the noun, more precisely, to mark a specific entity in a discourse. As an illustration consider the examples in bold (the English translation of INDEX is given in bold as well):

(65) MAN GO HIS GIRLFRIEND NEW MEET
INDEX-fr[7]WOMAN FAT NEGRO
'(the) man is going to meet his new girlfriend. **This** is a fat negro woman.'

(66) (66) MY FILM FAVOURITE FILM TITLE TERMINATOR
INDEX-f FILM BEGIN LATE FUTURE 2027 YEAR
'(the) title of my favourite film is Terminator. **This/the** film begins far in the future, in the year of 2027.'

In both of the examples above, the pointing signs make a reference to the preceding discourse (i.e. are anaphoric) and thus it is presupposed that the interlocutor is able to identify the referent: the reference of the noun is regarded as (exclusively) definite (see also 6.3.1). According to Lambrecht (1994:79), definiteness "signals whether or not the referent of a phrase is assumed to be identifiable to the addressee." In examples (65) and (66) indexes in the pre-nominal position appear to signal definiteness and perform the function which parallels that of (definite) determiners in many spoken languages.

It should be noted, however, that the present data seem to be inconclusive with regard to indexes occurring within noun phrases, and that some noun phrases which clearly provide a definite reading do not comprise an index. As an illustration consider the following glossed sentences which were signed in a sequence:

(67) MYHOUSE NEIGHBOUR HOUSE THERE GIRL MOTHER TOGETHER
'In my neighbouring house there is a girl and her mother'
GIRL NAME A-I-N-O
'(the) girl's name is Aino.'

This apparently sporadic use of indexes in ESL noun phrases could be explained by the optionality of marking definiteness: if a definite reading of a noun phrase is clear from the context, it is not obligatory to signal it with (an additional) index indicating the definiteness of that phrase. (Recall that in 6.1 we noted the similar principle of optionality in number marking). Bahan et al. (1995:4) formulate a similar case in American Sign Language: "while the presence of a pre-nominal index necessarily

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[7] I have translated the pointing sign glossed as INDEX as 'this/that/the' because it is the direct translation from Estonian determiner/demonstrative *'see'* which is often given as an Estonian counterpart to that sign by ESL translators. The letters *-f, -fr, -fl* indicate the direction of the index finger in the signing space, standing for *front*, *front-right*, *front-left*, respectively.

implies a definite reading, a definite reading does not necessarily imply the obligatory occurrence of a pre-nominal index."

Definiteness, however, can be expressed by the pointing sign or index alone as well. If standing alone in the noun phrase it serves to create an anaphoric, definite reference, as for example:

> (68) *Left hand:* INDEX-fl_____
> *Right hand:* MY CAR WHITE POSH
> 'My car is white. **This** is (a) posh (car).'

In (68), the pointing sign glossed as INDEX-fl is signed with the left hand on hold while the right hand articulates the sign for POSH: the INDEX points to the location in the signing space (front-left) where the car was signed previously and keeps track of its anaphoric relation, the noun phrase 'MY CAR.'

6.3.1 The position of INDEX vis-à-vis the head noun

In Estonian Sign Language, indexes appear both pre-and post-nominally in the noun phrase. It has been pointed out in sign language linguistics that indexes which occur after the head noun within a noun phrase have "a pure adverbial usage" (Bahan et al. 1995:3). However, the data of the present study suggest that indexes in the post-nominal position in ESL might also function as determiners.

If the index precedes the head noun in the noun phrase, then, according to the collected data, it seems to mark or indicate an anaphoric, non-restrictive, non-contrastive or 'neutral' reference which is usually conveyed by the definite article in spoken languages. Consider the following example in bold, and examples (65), (66), above; English translation of gloss INDEX is also marked in bold:

> (69) GIRL HE LIKE
> CHOOSE **INDEX-fl** BOY ONE EPAULETTE
> '(The) girl likes him. [She] chooses **the** boy who has one epaulette'

On the other hand, if the index occurs in the post-nominal position within the noun phrase in ESL, then, according to the present data, it could be interpreted to establish a restrictive or a contrastive reference which is usually marked by a demonstrative in spoken languages (e.g. *this/that* as opposed to *the* in English). As an illustration consider glosses in bold and English translations in bold:

> (70) FINALLY LETTER RECEIVE OPEN AGREE
> **MONTH DAY** JUST (?)[8] **INDEX-fl**
> 'Finally [she] received (a) letter, opened it, and agreed
> about **that** [particular] date'
> (71) **OWL WISE INDEX-fl** JUICE RED DRINK
> '**That** wise owl was drinking red juice'
> (72) SERVANT TWO-TOGETHER DECIDE **IMPOSING JUST (?)**
> **STAIRS INDEX-f** GO NOT OTHER ORDINARY DOOR STAIRS GO-
> DOWN-(THE)-STAIRS RUN-AWAY

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[8] The sign which I have glossed as JUST appears to function as the emphatic particle. In Estonian, the counterpart for that sign is given as '*sooh!*' which clearly carries no meaning, but seems to add emphasis to the sign it occurs with.

'[the girl and the] servant decided not use **that** entrance, the main one, but [they] ran away through (the) back door'

In the example (72), the post-nominal index can also be translated as 'from there' thus performing the function of an adverbial instead of a (contrastive) determiner.

For comparison, a parallel concerning the same modifier/demonstrative occurrence either before or after the head noun within the noun phrase could be drawn with such spoken languages as (following Givon 1984:419) the Romance and Germanic languages, and Sherpa, Mandarin. These languages have the option of using both pre- and post-nominal positions for the distal ('that') modifier/demonstrative: the post-nominal position for stressed deictic modifiers, and the pre-nominal one for demonstratives which are being reinterpreted as *definite articles*, or, as Givon (1984:419) puts it, "for unstressed bleached articles." He (Givon 1984:419) illustrates this phenomenon with examples from Swahili:

(73) a. mtóto **yule**　　(Swahili)
　　　　child that
　　　　'**that** child'
　　b. **yule** mtóto
　　　　that child
　　　　'**the** child'

Conversely, Ute (Uto-Aztecan) is a language which presents exactly the opposite word-order controlling principle (Givon 1984:419):

(74) a. ta'w«c**i** 'u　　(Ute)
　　　　man that
　　　　'**the** man'
　　b. 'u ta'w«ci
　　　　that man
　　　　'**that** man'

On the whole, indexes occurring either pre- or post-nominally within a noun phrase in ESL (probably in other sign languages, too) pose a challenge to sign language researchers who are attempting to find a (clear) distinction between pre- or post-nominal indexes - if there is any at all.

6.4 Case

As mentioned above (4.2.4), case is a grammatical category which marks the relational properties of noun phrases. Estonian Sign Language does not have a case system since the form of a noun sign does not change according to its grammatical relation, nor are noun phrase dependents marked to show their relationship with the head element.

As in the case of a spoken language as, for example, English, Estonian Sign Language uses *word order* to indicate which relationship the noun phrase has to the verb. Compare (75) from ESL with (76) from English; NPs functioning as subject and object are indicated in bold:

> (75) **HEN-SCRATCH** SUDDENLY NOTICE **CAT BLACK APPEARANCE**
> a. **LONG-THICK-HAIRS**
> '(a) hen was scratching and scraping, (and) suddenly noticed a black furry cat.'
> b. **CAT BLACK APPEARANCE LONG-THICK-HAIRS** SUDDENLY NOTICE **HEN-SCRATCH**
> '(a) black furry cat suddenly noticed that hen was scratching around.'
> (76) a. **The snake** killed **the bird**.   (English)
> b. **The bird** killed **the snake** (Tallerman 1998:146).

Estonian Sign Language relies completely on the word order strategy to convey which element is a subject, (while English, as Tallerman (1998:152-153) notes, displays the relics of a previous nominative/accusative case system in the forms of the first and third person pronouns in order to distinguish pronominal NPs functioning as objects from pronominal NPs functioning as subjects). See, for example, the following sentence (77). In example (77), pointing signs which serve to indicate 1st and 2nd person singular pronouns (see 5.4.2), are glossed as INDEX-c and INDEX-f, respectively, in order not to be mislead by the English pronoun system if presented with English glosses; the subject and object are in bold, cf.:

> (77) a. **INDEX-c**BE-AFRAID-OF **INDEX-f** NOT
> 'I am not afraid of you'
> b. **INDEX-f** BE-AFRAID-OF **INDEX-c** NOT
> 'You are not afraid of me'
> (78) a. We$_{[NOM]}$ (Subject) like her$_{[ACC]}$ (Object)   (English)
> b. She$_{[NOM]}$ (Subject) likes us$_{[ACC]}$ (Object) (Tallerman 1998:153).

Yet, unlike spoken languages such as Malay (see example (16) in 4.2.4), Chinese, and English (except for pronouns) where the order of constituents is the only way of distinguishing the NP arguments such as the subject and the object, ESL (as well as other sign languages) also utilises *inflected verb forms*, that is, *verb agreement*, for indicating the relationship between the noun phrase participants and the predicate. Considering the limits and scope of this paper, we will not discuss verb agreement in ESL in detail. However, in order to exemplify how (Estonian) sign language can exploit its temporal and spatial dimensions for grammatical purposes, consider example (79), where the verb give agrees with the positions of two points of

reference in the signing space, *-f* 'hare' and *-c* 'I - the signer takes the role of the bear' ('hare-give-I') (see also 5.4.2) thus marking the subject and the object:

> (79) BEAR STAND ON-(THE)-SHOULDER-TAP-**f** f-GIVE-**c** ONE PEA POD
> '(the) bear is standing [behind the hare], taps on the shoulder of the hare and begs [from it] one peapod.'

A parallel with regard to verb agreement could be drawn with the spoken language Kambera which does not have independent pronouns 'I' and 'you', and where only the subject and object markers on the verb determine who is the agent and who the patient, as indicated in bold in the following example:

> (80) Jàka **ku**-karai-**kai** tiang ...   (Kambera)
> if 1SG:NOM-ask-2PL:ACC later
> 'If I ask you (plural) later ...' (Tallerman 1998:147).

As already mentioned, Estonian Sign Language does not mark noun phrase dependents to denote their relationship with the head element (for a discussion about dependent-marking and head-marking languages, see 4.3.2). In this sense, ESL resembles, for example, English which uses only separate lexical items, that is, "non-fused pre-positions" (Givon 1990:477) to indicate such relationships as place. Consider the examples in bold:

> (81) **in**the big house   (English)
> **toward** the far blue yonder (Givon 1990:477).

In ESL, the location is indicated (or marked) by a pointing sign (index) which appears or is signed immediately after the head noun sign, cf.:

> (82) ROOM *INDEX*:INTO
> 'into (the) room'
> (83) ROOM *INDEX*:IN
> 'in (the) room'
> (84) ROOM OUT
> 'out of (the) room'
> (85) TABLE NEXT-TO
> 'next to (the) table'

With regard to the sign for 'next' in (85), it simultaneously indicates whether something is to the right or to the left.

In the examples about ESL (and also about English), neither the head (pointing sign/index in (82-83) and signs for OUT, NEXT-TO) nor the dependent (ROOM in (82-84), TABLE in (85)) carry any information about the relationship between the head and the dependents.

7 Possession in ESL noun phrases

We have already noted (in 4.3.1) that cross-linguistically, there is a strong tendency for the head to occur in a fixed position in all phrases within a spoken language. If the head tends to precede its complements (i.e. modifiers), it is classified as a head-initial language, while languages where the head follows its complements are classified as head-final (Tallerman 1998:100).

In the case of sign languages, it has been pointed out that a general tendency for modifiers is to follow their heads. In German Sign Language, as stated by Prillwitz et al. (1985:89), things, persons and places that are usually referred to by noun signs occurring as central elements in the noun phrase (i.e. the head) are *followed* by their modifiers.

In British Sign Language, the choice between pre- and post-modifiers is regarded as optional: "there appear to be no rules governing the use of one or the other," as Kyle and Woll (1985:157) observe. They (ibid.) add that "[s]ome researchers have suggested that the basic order is base sign + modifier, and that modifier + base sign phrases occur because of the influence of English." Kyle and Woll (1985:157) also mention that there is not enough evidence to support this particular theory.

On the basis of the present data, Estonian Sign Language displays *pre-nominal* modification to express possession in noun phrases. We will deal with genitive/pronominal modifiers first, and then proceed to genitive/lexical modification.

7.1 Genitive/pronominal modifiers

If a genitive/pronominal modifier occurs in the noun phrase in ESL, it always precedes the head noun, and there is no other modifier between the genitive/pronominal and the noun it modifies. In the following examples, the sign standing for genitive/pronominal modifier is prefixed with POSS ('possession'); depending on the direction of the handshape, 1st, 2nd, or 3rd person singular is referred to, cf.:

> (86) *POSS*:MY HOUSE
>   'my house'

> (87) *POSS*:HIS SERVANT
>   'his servant'

> (88) *POSS*:MY WAY (FAMILIAR)
>   'my way (familiar)'/('I know my way')

Although genitive/pronominal modifier is immediately followed by the head noun, the genitive/pronominal itself may be preceded by adjectival modifier. In the following example, the latter is glossed as GOOD, cf.:

> (89) GOOD *POSS*:MY FRIEND
>   'my good friend'

Nevertheless, the general tendency for adjectival modifiers, according to the present data, is to follow the head noun, if the latter is preceded by genitive/pronominal.

See example (90) where the adjectival modifier (NEW) follows its head (GIRLFRIEND), which is modified by the possessive:

> (90) *POSS*:HIS GIRLFRIEND NEW MEET
> '[the man] meets his new girlfriend,'

or example (91) which displays genitive/pronominal, head noun (FILM), and adjectival modifier (FAVOURITE) (i.e. Gen/Pron, N, Adj) placement in the phrase:

> (91) *POSS*:MY FILM FAVOURITE
> 'my favourite film.'

7.2 Genitive/lexical modifiers

Since ESL signs that function as genitive/lexical modifiers are not inflected nor carry any marker to indicate their function in the phrase, it is the order of signs that determines the role of the modifier and the modified in the possessive construction, as well as the context. In ESL, the genitive/lexical modifiers always precede the noun they modify in the present data. As an illustration, see the following examples where the genitive/lexical modifier is in bold:

> (92) **GIRL** NAME A-I-N-O
> 'The girl's name is Aino'

> (93) **FILM** TITLE
> 'the title of the film'

For comparison, it is interesting to note that in spoken languages such as, for example, Estonian, Finnish or English the relationship between genitive/lexical modifier and the head noun is morphologically marked. (See, example (20) in 4.3.2; or the English translation of example (92) above.)

In effect, the users of Estonian Sign Language have more work to do while extracting the meaning from the form than, for example, the users of Estonian. As an illustration, see example (94) which has the potential for greater ambiguity than the possessive constructions in spoken languages, the latter use morphological markers to indicate the syntactic relationship between genitive/lexical modifier and the head noun, cf.:

> (94) BEAR FAMILY WASHING DAY WAS
> 'The family of bears had a washing day.'

On the other hand, the data of the present study display examples where, in order to avoid ambiguity in the surface structure, one and the same sign, e.g. FILM in (95) is marked not only in the genitive/pronominal construction (*POSS*:MY FILM FAVOURITE), but also through repetition, as in the following genitive/lexical construction (FILM TITLE):

> (95) *POSS*:MY FILM FAVOURITE FILM TITLE
> 'the title of my favourite film'

instead of

(96) ?*POSS*:MY FILM FAVOURITE TITLE

In the above example, the repetition of the sign (FILM) serves to indicate explicitly that the adjectival modifier (FAVOURITE) modifies the noun sign (FILM) and not the sign for TITLE. However, if no adjectival modifier occurs in the noun phrase, Estonian Sign Language uses pre-nominal position to determine the role of the modifier and the modified, in the possessive constructions. Examples (97) and (98) serve to illustrate this; genitive/lexical modifiers are in bold:

(97) *POSS*:**HER BOYFRIEND** SERVANT HORSE REIN-HOLD
'Her boyfriend's servant is holding the reins of the horse/is checking the horse'

(98) ALL RECALL LONG-AGO WAS **1811 YEAR DECEMBER MONTH** END
'Everybody recalls the end of December 1811, which was long ago.'

8 Adjectival modification in the ESL noun phrase

Adjectival modification in sign languages challenges all theories of grammar. While spoken languages have only two types of modification available, that of pre-modification and post-modification (see also 4.3.1), a sign language may choose between four options to modify a phrase such as (a) SMALL BOY, as it has been pointed out in the case of British Sign Language (Kyle & Woll 1985:157).

Estonian Sign Language, according to the data of the present study, embraces three different ways of adjectival modification in the noun phrase that will be illustrated below. The fourth option, the simultaneous one, where the base sign is articulated with one hand and the modifier with the other, was not displayed in the present data. Still, since simultaneous (adjectival) modification is characteristic of sign languages alone, it deserves to be illustrated. Consider example (99) from British Sign Language (BSL) where the noun BOY is articulated with the left hand on hold while the modifier SMALL is signed with the dominant right hand (indicating the topic) (Kyle & Woll 1985:157):

> (99) *Left hand:* BOY.............   (BSL)
>   *Right hand:* SMALL
>   '(a) small boy.'

In ESL, one of the types of adjectival modification involves the incorporation of the modifier into the articulation of the sign itself. This is particularly the case with modifiers for size. For example, in (100) the hands articulate the sign for APPLE and at the same time modify it to indicate the approximate size of the item, viz., the apple is big:

> (100) APPLE-BG
>   '(a) big apple'

In example (101), the same kind of modification is used for referring simultaneously to the hair and to its length:

> (101) HAIR-LONG
>   'long hair'

Size modifiers themselves may undergo modification, which is conveyed by non-manual markers, (e.g. smallness is emphasised by squinted eyes, whereas bigness by wide-open eyes). Thus '(a) very big pear' would be signed as one sign accompanied by a non-manual element (wide-open eyes) which, in order to be expressed, for example, in Estonian or in English would require a noun phrase consisting of three elements: '*väga suur pirn*' (or '(a) very big pear') respectively.

The second type of adjectival modification in ESL noun phrases revealed by the data of the present study is a modification usually referred to in sign language linguistics as bracketing. In the case of bracketing, the adjectival modifier *both* precedes the head noun, or the base sign, and follows it. As an example, see (102) where the noun sign EGG, being modified by the adjective WHITE, is further modified by the sign for TINY (in italics) occurring both in the pre- and post-nominal position:

(102) HEN LAY *TINY* WHITE EGG *TINY*
'(the) hen laid (a) tiny white egg'.

Thirdly, adjectival modification can also be *either* pre- or post-nominal. Adjectival modification in this case shows a similar kind of sign order flexibility pertaining to the head noun (or the base sign) in the noun phrase as pointing signs/indexes discussed in 6.3.1.

The general tendency for adjectives to occur either before or after the noun sign they modify could be explained by the same distinction between restrictive and non-restrictive modification as in the case of pointing signs functioning as definitizers (in 6.3.1.). Following Givon (1990:473),

> [r]estrictive modifiers *restrict the domain* of the noun in terms of specific identification. They thus have the potential of being contrastive. Non-restrictive modifiers, on the other hand, tend to supply information that is *habitually known* as part of the normal characterisation of the individual in question. They thus have the potential of forming a compound lexical noun together with their head noun.

I am inclined to purport that it is this pragmatic principle which controls the word-order variation of adjectival modifiers in Estonian Sign Language, and not the influence of Estonian. If it were only the influence of the pre-modifying word order in the noun phrase of the Estonian language on the noun phrase of ESL, which in theory should use (only) post-nominal modification (see Ch.7), then the occurrence of adjectival modifiers either pre- or post-nominally should appear to be more chaotic. The data of the present study display some general tendencies. The following examples illustrate adjectival modification in the *pre*-nominal position (indicated in bold):

(103) **BLACK** CURRANT[PL] (GROW GARDEN THERE/IN)
'The black-currants grow in the garden'

(104) **BLUE** FLOWER[PL] (BLOOM APRIL MONTH)
'In April, the hepatica blooms'

(105) **RED** TOMATO (COST HOW-MANY)
'How much do the red tomatoes cost?'

(106) **WARM**SHAWL SQUARE (PUT-OVER-SHOULDERS)
'[Marina] put (a) warm shawl over her shoulders'

(107) **WARM** WATER (NEED)
'[I] need some warm water'

The general tendency which emerges from the examples above reveals the (high) potential of a pre-nominal adjective to create a generic reference. In examples (103) and (104), the adjectives BLACK and BLUE, respectively, do not serve to indicate any specific characteristic of the entity which the head noun is referring to, (i.e. they do not restrict the information). Instead, the adjectives combine to create a compound expression together with the modified head noun. Similarly, in example (105) the preceding adjective RED appears to modify its head noun/base sign non-restrictively: here RED is used to denote a characteristic quality and is presupposed rather than conveyed as informative or new data. The same applies to examples (106) and (107) where the premodifying adjective does not appear to convey any specific or restrictive information.

In contrast, adjectives occurring in the post-nominal position show a tendency to establish a specific or a unique reference. Consider the following examples where the modifying adjective (in bold) follows its head, or the base sign:

> (108) CAT **FURRY BLACK APPEARANCE** WALK PROUDLY
> '(The) furry black cat walks proudly'
>
> (109) REMEMBER BOOK **BIG** READ WAS
> '[The girl] remembered (the) big book which she had read'
>
> (110) CAPE **OLD-FASHIONED** PUT-ON
> '[Marina] put (an) old-fashioned cape on'
>
> (111) MAN **STRANGE** TWO-COME
> 'Two strange men came'
>
> (112) GIRL **BEAUTIFUL** PUT-MASCARA-ON-EYELASH[PL]
> '(The) beautiful girl is putting on mascara.'

In (108), above, signs for the adjectives FURRY and BLACK seem to narrow the reference of the head noun CAT, to restrict the focus on (one) particular cat which is black and furry, rather than (many) furry black cats. In (109) the function of the post-nominal adjective BIG is restrictive: what is meant is a particular big book. Also, the adjective OLD-FASHIONED in (110), following the base sign CAPE serves to supply specific information instead of generic information, (viz. 'old-fashioned capes'). The same restrictive or contrasting function/quality of adjectives in postnominal positions emerges from examples (111) and (112): in the latter the focus is on the modifier rather than on the modified.

On the whole, the placement flexibility in the case of adjectival modification in ESL noun phrases amounts to the principle of information processing of "going from the generic to the specific" (Givon 1984:225), which is analogous to the structural contrast between "given" and "new" information (for discussion of information structure, see Halliday 1994).

Nevertheless, further data should be analysed in order to find out the possible influence of Estonian on ESL and to be sure that this pragmatic principle holds true.

9 The order of (multiple) elements within the ESL noun phrase

In the preceding chapters we have seen that one major aspect of order within the noun phrase is whether modifiers *generally* precede or follow the head noun. In spoken languages, as Givon (1990:467) points out, "ordering constraints may also govern the placement of modifiers vis-a-vis each other." To illustrate this, he (Givon 1990:467) offers a general rule for the order of modifiers in English which could be presented as follows:

> (113) NP= quantifier, determiner, the adjective phrase, NOUN   (English)

We have also noted (in 4.3.1) that Greenberg (1990 [1966]) formulated several universals with regard to the placement of modifiers within the noun phrase (recall Universals 18, 19, 20).

As far as sign languages are concerned, Kyle and Woll (1985:171) write that "[l]ess is known of sign language grammar universals than of lexical similarities." These grammar universals which have been found across (well-)studied sign languages concern the features of verbs, e.g. aspect and modality marking (see Kyle & Woll 1985:170).

It is important to note that, according to the present data, the noun phrase in ESL comprises most typically only one modifier or dependent. If the head noun has more than one modifier, these are most likely to be genitive/pronominal or/and genitive/lexical plus adjective, the combination of which tends to present the following patterns:

(114)	Adjective	Genitive/pronominal	Noun (see example 89)
(115)	Genitive/pronominal	Noun	Adjective (examples 90, 91)

The above patterns show that the governing noun and its dependent genitive form a nexus which cannot be interrupted by the adjective.

This is the only claim that we can make about the order of elements in relation to each other within the ESL noun phrase at the present stage of study on Estonian Sign Language.

10 Conclusion

In conclusion, I would like to say that this paper on the noun phrase in Estonian Sign Language reports work in progress rather than facts implying a closure. The preliminary findings show that the most common grammatical categories of the noun phrase that are expressed in spoken languages are also expressed in the ESL noun phrase. The findings also demonstrate that despite the completely different medium employed, the ways by which the grammatical categories are indicated in ESL are in many ways similar to those found across different spoken languages.

Firstly, having observed how many and varied are the formal means which spoken languages use cross-linguistically to signal number distinctions (4.2.1), we noted that in ESL at least four mechanisms for the formation of plural forms of nouns are utilised: the reduplication of movement, the reduplication of handshape, the addition of a quantity marker, and the mouth picture (6.1.1); it was suggested that the latter occurs due to the influence of spoken Estonian. We also noted that as a means of pluralization, reduplication is not only typical of (Estonian) sign language, but also of some spoken languages (4.2.1, 6.1.1). In addition to signalling singular/plural contrast, other degrees of numerosity, such as dual and trial are indicated on the nouns in ESL. As for the locus of number marking, we found that in ESL the principal signal of number may appear either in the noun phrase or be encoded in the verb (6.1.2). We also saw that ESL does not show agreement in number in the noun phrase nor sometimes at a sentence level: if the verb is already carrying the specification for number, an unmarked singular form of the noun may be used optionally with plural reference (6.1.2).

Secondly, with regard to the grammatical category of noun class, we found that ESL noun phrase utilises nominal categorisation realised by a set of signs which covers a variety of semantic domains (e.g. shape, size); these signs were referred to as noun classifiers (6.2). We noticed that noun classifiers in ESL reveal a tendency to occur when a new discourse referent is introduced, and appear to operate as explanatory features of the (new, or supposedly unknown) noun/sign. The indications are that research on discourse analysis of noun classifiers in ESL would provide interesting results which might be in line with what has already been found in other sign languages and spoken languages with noun classifiers.

Thirdly, the present data show that in the ESL noun phrase the grammatical category of definiteness is marked by independent lexical elements, by pointing signs made by pointing with the index finger (glossed as INDEX). We saw that when indexes appear with nouns in a noun phrase (in the pre-nominal position), they serve to mark a specific entity in a discourse (6.3).

Fourthly, we saw (6.4) that ESL does not use the case system to mark relational properties of noun phrases. Instead, similarly to many spoken languages, word/sign order and inflected verb forms (verb agreement) are utilised for indicating relationships between noun phrase participants and the predicate. Relationships such as place, for example, are marked by pointing signs or some other specific sign.

The statement that in a sign language one should sign the base sign (head) first and then the modifiers, is refuted in Chapter 7. In Chapter 7 we see that ESL exploits *pre-nominal* modification to express syntactic relationships in possessive constructions in noun phrases.

Chapter 8 serves to show that in addition to adjectival modification which involves the incorporation of the modifier into the articulation of the sign itself, and in addition to the modification where the adjectival modifier *both* precedes and follows the base sign (head noun), *either* pre- or post-modification also occurs. In the case of the latter we noticed that the general tendency which revealed from the examples of premodifying adjectives is to create generic reference, whereas post-modifying adjectives appear to establish a specific or a unique reference. This tendency was associated with the information processing principle analogous to the information structure contrast between "given" and "new" information.

To discern whether the ESL noun phrase yields some constraints pertaining to the ordering of multiple elements (signs) was the aim of Chapter 9. We had to conclude that at the present stage of study on ESL, the only claim we can make is that the governing noun and its dependent genitive appear to form a nexus which cannot be interrupted by the adjectival modifier.

Altogether, in this paper we have seen that the noun phrase in Estonian Sign Language exhibits features which are common not only to some other sign languages, but also to some spoken languages. The results of the research will help us to provide the users of ESL with a description of the rules they have been using intuitively until now and facilitate language teaching.

Further research on ESL is needed to verify the preliminary findings of the present study on a much wider empirical basis than was possible within the limits of this paper. The findings of the further study on ESL would help to establish Estonian Sign Language along with other better studied sign languages and will contribute to the primary concern of linguistics: 'what is a possible human language?'

11 Eestikeelne sisukokkuvõte

Käesoleva bakalaureusetöö *Tüpoloogiline lähenemine substantiivifraasile eesti viipekeeles* üks põhieesmärke on tuua keeleteaduse vaatevälja väheuuritud keel - eesti kurtide omavahelises suhtlemises tekkinud visuaalne-motoorne keel - eesti viipekeel. Töö sihiks on vaadelda, kas ja kuidas väljenduvad eesti viipekeeles kõige levinumad substantiivi ja substantiivifraasi grammatilised kategooriad, mida väljendavad maailma erinevad kõneldavad keeled. Taotluseks on kirjeldada ka viipejärge substantiivina funktsioneerivate viibete ja nende tähendust täiendavate viibete suhtes eesmärgiga kontrollida üldlevinud väidet, mille kohaselt põhiviibe (ehk fraasi põhi) alati eelneb tema tähendust laiendavatele viibetele.

Rakendatud meetod on peamiselt induktiivne ja materjalist lähtuv. Töö materjaliks on ajavahemikus 1990-1994 videolintidele salvestatud kurtide (kelle esimeseks ja esmaseks suhtlemisvahendiks on viipekeel) viibeldud muinasjutud, lood lemmikraamatust, või -filmist.

Töö esimeses, teoreetilises osas antakse ülevaade tüpoloogilisest lähenemisest keeleuurimisele (3. peatükk), käsitletakse substantiivifraasi kui sellist ning kirjeldatakse, kuidas maailma erinevad kõneldavad keeled väljendavad substantiivifraasiga seonduvat grammatilist informatsiooni (4. peatükk). Samuti selgitatakse viibete ja viipekeele olemust (5. peatükk). Lisatud on lühiülevaade viipekeele hetkeolukorrast Eestis (peatükk 5.5).

Töö teine, praktiline osa keskendub substantiivifraasile eesti viipekeeles. Lähtudes teoreetilise osa 4. peatüki grammatiliste kategooriate käsitlusest, vaadeldakse, kas ja kuidas eesti viipekeeles väljendatakse sellist substantiivifraasi kuuluvat grammatilist informatsiooni nagu arv, substantiivi klass, määratletus (definiitsus), ning kas ja kuidas tähistatakse substantiivifraasi süntaktilist seost teiste lauseliikmetega.

Kasutatud materjali põhjal saab järeldada, et eesti viipekeeles on vähemalt neli erinevat võimalust märkimaks mitmust substantiivi funktsioonis olevatele viibetele (edaspidi 'substantiivid'): liigutuse kordus, käevormi kordus, mitmuslikkust tähistava viipe kasutamine ja suupilt. Eristatakse kaksust (duaali) ja kolmsust (triaali). Erinevalt kõneldavatest keeltest, mille puhul mitmust väljendatakse tavaliselt substantiivifraasis, võib eesti viipekeeles ka ainult verb markeerida referentide hulka. Leidsin, et mitmuse märkimine substantiividel on nö fakultatiivne: kui verbiviibe osutab mitmust, võib jätta substantiivi markeerimata. Substantiivi klassi tähistavad eesti viipekeele substantiivifraasis substantiivi klassifikaatorid. Analüüsitud materjal lubab oletada, et definiitsust markeeritakse eesti viipekeeles osutusviibetega (moodustatakse nimetissõrmega), mis vahetult eelnevad substantiivile. Substantiivifraasi funktsiooni lauses markeeritakse viipejärjega. Vaadeldes substantiivi ja selle täiendite järge fraasis, leidsin, et vastupidiselt üldlevinud seisukohale viipekeeltes eesti viipekeele substantiivifraasis genitiiv-asesõnalised ja genitiiv-leksikaalsed täiendid eelnevad substantiivile/põhiviipele. Ka adjektiive tähistavad viiped ('adjektiivid') võivad eelneda substantiivile. Tööks kasutatud materjali põhjal oletasin, et adjektiivide eelnemine substantiivile ei pruugi olla mitte niivõrd eesti keele mõju eesti viipekeele viipejärjele, kuivõrd informatsiooni esitamise pragmaatiline printsiip, mis on analoogne info liigendatusele "uueks" ja "vanaks" informatsiooniks.

Kuna käesolev töö on alles esimene samm eesti viipekeele grammatika uurimisel ja kirjeldamisel, ei peaks selle töö tulemusi interpreteeritama kui lõplikke fakte.

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