Tesi di Laurea Specialistica

THE GRAMMAR OF ITALIAN SIGN LANGUAGE, WITH A STUDY ABOUT ITS RESTRICTIVE RELATIVE CLAUSES

di

Michele Brunelli
matricola n° 798418

Relatore: prof. Guglielmo Cinque
Correlatrice: dott.ssa Carmela Bertone

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'Sto lavoro qua el xe dedicà
oviamente a mé pare e mé mare,
mé fradełi,
mé amisi,
mé moróxa Martina
(che fra l'altro da eła go avúo motivo de inparar el sardo)

L'è dedicà in particołar
ai mé amisi sordomuti
che i me ga soportà par un saco de tenpo
co tute łe domande che mi ghe faxéa

L'è dedicà a tuti quii
che int'un modo o int'un altro
co na sana bevuda o calche festa o baxo o ciacołada o riflesion
i ghe ga méso del suo par far beła ła vita che fin deso go vivesto

Dó parołe voría dirle anca par ła Providenzsa,
che Ła me ga dà ła pasion e l'ocaxion
de studiar łéngue tanto strane e difarenti

E defati 'sto lavoro qua ghe ło dèdico anca
a tute łe łéngue drio morir
no conosúe o no riconosúe
a tuti quei che i parla na łéngua senzsa capírghene el vałor
e a l' último parlante (o segnante) de ogni łéngua che móre

Na dèdica anca
par tuti quii che i m'à visto pasar co łibri de tute łe sorte e carte piene de signi stranbi
vardàndome stranìi
parché in fin de cunti *everybody speaks English*
come se ła bełézsa ła fuse sol che 'nte l'arte e ła poexía
e no ghe fuse na bełézsa da amirar anca 'ntei sintagmi ben postài e concordài
o no se catase na s·cianta de poexía anca 'ntel védar
che sóto sóto tante sintasi difarenti łe ga na strutura soła

In fin dei cunti ła Gramàtica Xenerativa ła xe na teoría de l' *unità 'nte ła plurałità*
se fémo ocio, łe struture lenguístiche łe ne ga batú sul tenpo:
łe ga catà chel saver star insieme che noaltri òmeni e done fon fadiga catar...

Na dèdica, giustamente,
anca ai profesuri de tute łe parte del móndo, nostrani e foresti,
che co spiegazsion a parołe o łibri in bibliografía
i me ga dà material fondamentałe par rivar far quel che vedí

E quel che vedí qua,
el xe dedicà anca a quii che i vorà darghe na ociada
e magari i ghin' catarà fora roba útiłe par i só studi...

                                                              Michele Brunelli

Indice

1 Introduction: LIS (Italian Sign Language) and Sign Languages

The original aim of this work was carrying out an analysis of restrictive relative clauses in Italian Sign Language (henceforth *LIS*). Later, however, it turned out that dealing with such complex constructions related to a language whose grammar has not been described would have probably been of no use: indeed there are dictionaries of LIS signs and much has been written about its phonology, but speaking of relative clauses requires a good background of morphology and syntax. Thus, the study about LIS restrictive relative clauses is preceded by some chapters intended to provide a description of the main aspects of the grammar of LIS.

Moreover, apart from people interested in linguistics, it seems that LIS is usually considered a "grammarless" language by people, as if a language consisted only of "words (or signs) and pronunciations to say something" and did not involve the way these words/signs must be combined. Indeed it is a usual perception among people that grammar is something specific only of *officially recognized* languages. Thus this work also aims to provide evidence that LIS, though not officially recognized, does have its own grammar intended as covering both morphology and syntax.

Still, since deaf and hearing people have not been much in contact until recently, their languages have developed independently. Besides, LIS is a visuo-spatial language while oral Italian relies on sound to convey meanings: this implies that the grammar of LIS has little in common with the grammar of Italian, English and other Indoeuropean languages in general and so people usually hardly imagine "where" and how the grammar can be in a LIS sentence. In other words people very often make confusion between grammar (in general) and grammar of "familiar" languages (e.g. better known European languages). As a consequence of this it is very often believed that LIS has no grammar, while it can be very close to some less known oral languages.

This work intends to provide evidence that LIS, although having a grammar different from Italian and English, nevertheless does have its own grammar.

1.1 Phonological features

Whereas oral languages create words combining morphemes and phonemes, signed languages create signs combining some formational parameters: at the beginning the term *chirology* was proposed for the study of this phenomenon, but now the term *phonology* is preferred in order to stress the parallelism between signed and oral languages. In the same line, the labels "speaker/signer" are used as synonyms in this work and also the word "listener" is employed in an abstract sense meaning the "seer", i.e. he who "listens to" (by looking at it) a signed discourse.

Changing one of these parameters produces "minimal pairs" just as changing a vowel or a consonant does it in an oral language.

In LIS four parameters have been found to constitute a sign:

- *handshape* (also called "configuration") = the shape formed with the hand(s)

- *place of articulation* (also called "location") = the point where hands form the sign

- *orientation* of the palm = the position of the palm of the hand(s)

- *movement* = the way the hands move (quickly, slowly, repeatedly...)

Movement also involves *direction* towards the place the hands move to, a factor especially important for the morphology and syntax of sign languages as will be shown later.

An example of a LIS minimal pair, made by varying only the PLACE OF ARTICULATION parameter, is the following **(Verdirosi, 1987, p. 39)**

SORRY : handshape/config. = A , movement = repeated , orientation = speaker, place = chin
MOTHER : handshape = A , movement = repeated , orientation = speaker, place = cheek

Thus in LIS, «sorry/mother» is a minimal pair produced by change of place in the same way as in English you can obtain the minimal pair «**p**ath / **b**ath» by simply switching from [+voiced] to [-voiced] the first phoneme of the word.

1.1.1 Phonological distinction between noun and verb

Formational parameters also enter in some syntactic and morphologic processes. For example a distinction between a verb and its corresponding noun is often made by a change in their movement. It must be said that not all LIS verbs are distinguished from nouns, just as is in English (*We work* vs. *The work , I change* vs. *A change*) or in oral Italian (*io gioco* vs. *il gioco*). Many verbs, however, are different from the corresponding nouns in that the latter often have a repeated and quick movement, while the former have a non repeated slower movement. Moreover verbs in many cases have also a direction which is used to mark the agreement with their arguments (see 2.4.1), while nouns can have a place but no direction. The photos below are taken from Radutzky (1992).

Noun : GROWTH (*trees*)   Verb: TO GROW

The noun GROWTH and the verb TO GROW share the same configuration.

Nevertheless, the noun has a quickly repeated movement, whereas the verb has a more relaxed and not repeated movement. Moreover, as will be seen later, the verb can be located in different places (e.g. on the left or on the right) to agree with the subject.

1.1.2 The importance of non manual (non phonological) components

In Sign Languages great importance is attached to non-manual components, e.g. the facial expression which usually carries out the task corresponding to the intonation of oral languages. It is widely known that not all the languages use morphological devices to mark, say, an imperative, a question or some subordinate clauses but some of them simply rely on intonational patterns.

For example English on one hand marks questions with the auxiliary *do* while Italian has just a specific intonation to distinguish questions from assertive sentences. Another specific intonation is also required to mark imperatives.

It: Scrivi bene

You write well

It: Scrivi bene?

Do you write well?

It: Scrivi bene!

Write well!

LIS, in this respect, behaves like Italian in that questions and orders do not always involve word order changes or the insertion of some particles but are simply marked by specific facial expressions.

The non-manual components of LIS, however, also enter in other syntactic processes, the best known being the so-called "role-taking" (Franchi, 1987) which often also requires movement of the body and some change in the posture. Role-taking consists basically in assuming the posture or expression of some referents in the speech, not too differently from the way hearing people imitate the voice of the characters of a story when reproducing their direct speeches. Because of this, the non-manual components should be kept carefully in mind, when describing LIS and signed languages in general.

1.2 Main differences between LIS and Italian language

The Italian Sign Language (*LIS*) has a very different grammar from that of (oral) Italian: this is due partly to some features typical of the visual communication and shared with other sign languages, and partly to some specific features of LIS.

The use of signs, forming different shapes and movements in the air with the hands, leads to a very peculiar morphology strictly depending on the use of sight instead of sound as way of communication: the most striking example is the presence of two articulators, the hands, which partially disengage the word order from the "time order" because **two signs can be performed at the same time** with different hands, whereas in oral languages there is one oral articulator, the mouth, which forces the speaker to say a word after the other.

Nevertheless, LIS shares many features with oral languages, though different from Italian and Indoeuropean languages, so whenever possible some comparisons will be presented in order to make the grammar of LIS more "familiar" to people unfamiliar with signed languages: this includes comparing LIS with Basque, Māori, Indonesian, Hungarian and every tongue useful for this aim.

The question as how to write in words the signs and how to gloss them will be resolved as follows:
1) the places and/or directions of the signs will be represented after the gloss of the sign itself. When indexes are used, they appear as ‹*ind*› close to the sign to which they refer
2) In the case of verbs whose signs move from a place to another, the starting point of articulation is written at the left side of the gloss and the end point of articulation (the direction) is written at the right side
3) for the purpose of this work the following places are established:

- 1 = (speaker's/signer's body) = 1st person
- 2 = (listener's/seer's body) = 2nd person (usually in front of the speaker)
- LFT = (left from signer's body) = 3rd person
- RGT = (right from signer's body) = 3rd person
- LDG = (left-diagonal) = 3rd person
- RDG = (right-diagonal) = 3rd person
- MID (between signer and seer) = 3rd person...

LISTENER / SEER

SPEAKER / SIGNER

4) the word order on the page reflects the "time order", i.e. the sequence in which the signs are performed (from left to right) and does not correspond to the real places in which the signs are performed. The leftmost word is simply the first sign produced, though it can be at the right side of the signer's body. The rightmost word is the last sign produced, though it can move from a place to another as many verbs do in order to agree with their arguments.

5) two signs produced at the same moment (one sign for each hand) will be represented one above the other: this implies that in LIS there can be "two first words" or "two last words" for example.

Some examples of the above criteria are:

1) CHILD_{RGT}   MOTHER_{LFT}   _{RGT}PHONE_{LFT}
   the child   the mother   he-phones-her
the child phones his/the mother

2) MOTHER_{LFT}   CHILD_{RGT}   _{LFT}PHONE_{RGT}
   the mother   the child   she-phones-him
the mother phones her/the child

2a) MOTHER *<ind>*_{LFT}   CHILD_{RGT}   _{LFT}PHONE_{RGT}
    same meaning as the sentence (2) above, but using an index immediately after the noun

3) CHILD_{RGT}   THREAD_{LFT}   THREAD-LIKE-THING *-classifier*_{LFT}   (with the left hand)
                                      CUT-WITH-SCISSORS_{LFT}   (with the right hand)
   the boy   the thread   thread-cut-with-scissors

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It is to be noted that the phonology of the sign interferes with the overt realization of some of its morphologic features just as the phonology of a spoken word interferes with the suffix(es) adjoined to it. So the noun CHILD, which is normally signed in the neuter space, can be articulated at the right side of the signer to realize CHILD_{RGT} , whereas the noun MOTHER, which is realized on the signer's body, requires the signer to slightly move his/her body to the left to obtain the sign MOTHER_{LFT.} This parallels somehow the English contrast between *ear-ear*s on one hand, and *church-church*es on the other, in which the plural affix is adjusted on the basis of the phonology of the word in question: *church* requires the addition of *–e–*.

In the following paragraphs some general aspects of the grammar of LIS will be examined before describing its rules in detail.

1.2.1 The morphology of sign languages

As said above, the visual modality of communication leads to a very different morphology from that we are used to find in oral languages, even if at an abstract level we are concerned with the same deep structures and the same categories: of course in LIS too there are NPs, VPs, AGRs, nouns, verbs and inflections but the way they are realized can vary in many aspects that we are used to consider "absolute".

As will be explained later, sign languages not only realize agreement by means of the PLACE feature (instead of GENDER or CLASS) , but they also allow the speaker to "arbitrarily" assign this feature to the noun. This constitutes the real reason of their great flexibility in compare to oral languages, in which GENDER is intrinsic to the word. So, English *house* is always neuter and requires the pronoun *it*, whereas Italian *casa* is always feminine and requires the clitic pronoun *la* and feminine adjectives. In LIS, on the contrary, the sign *house/casa* can be performed at the left of the speaker/signer or at his right or in other places of articulation, depending on how the signer himself plans to pronominalize the noun or to make it agree with its adjectives.

Another basic aspect of LIS morphology is **time of articulation as a mean of agreement between different parts of a sentence or a clause**, what is not possible in oral languages: in addition to the PLACE (OF ARTICULATION) feature, there can also be an TIME OF ARTICULATION feature used to realize agreement, not to be confused with the time and aspect of the verb.

In other words, two signs can be co-articulated at the same moment and therefore agree according to the (same) time in which they have been performed. It is to be remembered that the possibility of signing some words at the same time is granted in sign languages by the presence of two independent articulators, i.e. the hands (as we have already seen), whereas in oral languages this resort is not available as people have only one mouth.

So in (3) , here repeated as (4) , we have two signs articulated at the same time:

4)CHILD_{RGT}   THREAD_{LFT}   THREAD-LIKE-THING -*classifier*_{LFT}   (with one hand)
                                         CUT-WITH-SCISSORS_{LFT}   (with the other hand)
   the child   *the thread*   *thread-cut-with-scissors*
the child cuts the thread with the scissors

The sign CUT-WITH-SCISSORS is realized near the classifier THREAD-LIKE-THING used for "thread-like objects" as both are articulated in a place near the left side of the signer's body, but they are also articulated at the same time as shown by the fact that they are written one above the other. The agreement between the verb and its direct object is thus so realized:

- the NP THREAD agrees with the classifier for "threadly" things in PLACE as both have [+LFT] and semantically on the basis of the shape of the object represented (a "thread")

- the "threadly" classifier agrees in PLACE of articulation with the verb as both have [+LFT] (they are articulated near the left side of the signer's body) and in TIME OF ARTICULATION as both signs are performed at the same time, each sign by one hand.

- so the classifier "transfers" the agreement between the object THREAD and the verb CUT-WITH-SCISSORS.

Classifiers will be examined later. However it must be noted that they are used even in oral languages as for example Chinese: thus, what is "new" in LIS is not the presence of classifiers but the existence of a TIME OF ARTICULATION agreement feature due to the fact that the classifier is signed by one hand together with the verb which is signed by the other hand.

This should be not confused with another resort largely employed in LIS, incorporation: there is a slight difference between them in that incorporation involves phonological changes, not observed in the case of the co-articulation of two signs. For instance the numeral-incorporating word THREE-MONTHS is made of one base-sign (MONTH) whose phonology changes in order to host the sign THREE, which is incorporated.

This because the base-sign itself (MONTH) must be realized with two hands: this implies that its phonology must change to allow one hand to form the numeral sign (THREE). A more familiar example is that of English "once/twice" which compresses into one word the idea of "one+time / two+times". The same holds with some verbs which, though retaining their agreement movement with the arguments, change their configuration and assume that of their direct object. This will be seen later, however.

In the case of coarticulated signs as in (4) instead, each hand forms an independent, complete sign whose phonology does not change: these signs are simply articulated at the same time but do not join into *one* sign. This can also be especially visible in reciprocal forms (as shown in (5) below) where each hand realizes simultaneously one and the same verb-sign, though giving it a different direction corresponding to an autonomous inflection or agreement of the verb itself with its arguments:

5)CHILD$_{RGT}$ MOTHER$_{LFT}$ $_{RGT}$SPEAK$_{LFT}$ (with one hand)
                                      $_{LFT}$SPEAK$_{RGT}$ (with the other hand)

 the child   *the mother*   *he speaks to her*
                                      she speaks to him
the child and the/his mother speak to each other

The TIME OF ARTICULATION feature is used to build the reciprocal form of many verbs as in (5): in this case one and the same verb is simultaneously signed by each of the two hands. Each verb-sign moves between two different places (from the subject place to the object place) but the signs go in opposite directions "towards each other". Thus the direction, the endpoint of one verb corresponds to the starting point of the other verb and this gives the sense that the subject of one verb is at the same time the object of the other, what produces the "reciprocality".

In conclusion the morphology based on "forming and moving shapes with the hands" is different from the morphology we are used to in that not only the assignment of some agreement features is different (PLACE assigned by the signer/speaker), but it can also be "bidimensional" in the sense that the word order is not strictly linear because also time (the moment of articulation) takes part in the agreement process allowing parallel agreements of different words to take place, as is the case of the two sign-verbs SPEAK in (5).

Oral languages lack this possibility as their word order is linear and does not allow simultaneousness.

1.2.2 Classifiers, Indexes, Absence of article, case and gender

Despite the differences seen in paragraph 1.2.1, the grammar of LIS shares many features with oral languages. Of course LIS is not part of the Indoeuropean family, which traditionally refers to oral languages. This gives the result that many aspects of LIS grammar recall those of "unusual" tongues as Māori, Swahili or Chinese. So the fact that LIS lacks many features of oral Italian does not mean that it is a "pantomime" as many people think.

Making a brief overview of LIS , some characteristics can be stressed:
- absence of definite/indefinite articles, as is in Slavic Languages or in Latin
- absence of overt case marking: nominative acts as accusative and oblique cases
- a wide and detailed set of personal pronouns distinguishing between inclusive and exclusive forms, as can be observed in Māori
- use of classifiers, as in Chinese and the south-east Asian languages
- wide use of incorporation, especially of numerals into nouns as in many Amerindian languages
- PLACE substitutes gender/class and is used to realize agreement among nouns, adjectives, determiners, pronouns *and also on verbs* as is the case of Hebrew gender or Swahili classes (while in oral Italian finite verbs normally do not agree in gender). *More in general, in LIS the PLACE identifies the nouns to make them agree with other elements of the sentence*
- use of indexes to separately realize the PLACE feature of some NPs and VPs

Indeed, the absence of overt articles in LIS does not mean that it lacks any overt determiner, in other words signs meaning «this/that» exists in LIS even if there are no signs conveying the meaning of English «the» or Italian «il, la, i...»

It must also be kept in mind that nominal indexes are special deictics in that they do not recall entities previously assigned a location (as do pronouns and demonstratives) but instead they assign a location/place to an NP, to subsequently realize agreement.

Also verbal indexes, though looking like pronouns (and being so glossed for clarity reasons), often work much more as inflectional morphemes, e.g. the *–s* of English 3rd person singular. Anyhow indexes, pronouns and demonstratives will be analyzed more depth in the paragraphs related to the NP, to pronouns and to the verb.

1.2.3 Place instead of gender: agreement is realized through an "arbitrary" feature assigned by the speaker

In LIS the functions of gender are performed by PLACE/LOCATION of articulation: instead of masculine, feminine and neuter a variety of places can be used in LIS to mark a noun or an adjective. It is widely accepted that gender is part of a larger category, namely that of NOUN CLASS employed by some languages, as for example Swahili.

Thus many Indoeuropean languages distinguish two or three genders (*masculine, feminine and neuter*) and sometimes four as can be observed in the Swedish pronominal system where a common-gender form is required for "non-masculine non-feminine non-neuter" nouns (*masc.* han, *fem.* hon, *neut.* det, *common* den).

Swed: Han kam   (masc.pers.)
      He came   (e.g. Han=den gamle mannen=the old man)

Swed: Hon kam   (fem.pers.)
      She came   (e.g. Hon=den sköna flikan=the beautiful girl)

Swed: Det kam   (neut.)
      It came   (e.g. Det=det nya året=the New Year)

Swed: Den kam   (non-masc., non-fem., non-neut)
      "It" came   (e.g. Den=den störa hunden=the big dog)

On the other hand, Swahili nouns are grouped into different classes, traditionally they are 19 because singulars and plurals are considered as separated classes; nevertheless according to the same criteria followed for other languages (i.e. considering singular and plural as two varieties of the same class) Swahili would show at least 8 or 9 noun classes. There are classes for persons, for objects, for trees and vegetables and so on... These classes carry out the task of the genders found in other languages, that is, both genders and classes take part in agreement among nouns, determiners and adjectives. Likewise, the role of place (location) in LIS is to identify the arguments and make them agree with other parts of the sentence. Thus, while Italian nouns agree with adjectives in gender and Swahili ones agree in class, in LIS they agree in the PLACE where they are articulated.

Compare the following sentences:

6) Ital: libr**o**   piccol**o**
       book-m.   *little*-m.
   A/The little book

7) Swah: **ki**tabu   **ki**dogo
        book-c7   *little*-c7
   A/The little book

8) LIS: BOOK_{RGT}   LITTLE_{RGT}
    A/The little book

In LIS, thus, there are neither genders nor noun classes but the feature PLACE (of articulation) instead is used to mark agreement. However, a great difference exists between the way gender/class is assigned to the nouns of oral languages and the way PLACE is assigned to nouns in sign languages.

Whereas Italian genders and Swahili classes are strictly determined in the lexicon together with the noun, LIS PLACES are freely set by the speaker/signer. In other words in Italian you are not allowed to decide whether in a sentence the word LIBRO (=book) must be added a feminine ending because it is *always* masculine. Its Swahili counterpart KITABU cannot be added a class-3 prefix ***m-*** (as in "***m***tu", tree) because it is always a class-7 noun. In LIS, on the contrary, one can choose whether to sign this word at one's left or at one's right according to one's preference, for example, in order to make the sentence easier to understand: in other words, the "right-sidedness" , "left-sidedness" of a word-sign is decided by the speaker. Compare the previous sentences (6,7,8) and their counterexamples (6a,7a,8a):

6a) Ital: *libr**a**   piccol**a**
         book-f. *little*-f.

7a) Swah: ***m**tabu   **m**dogo
          book-c3   *little*-c3

8a) LIS: BOOK _{LFT}   LITTLE _{LFT}

Nevertheless, there always must be agreement between nouns and adjectives, i.e. place of agreement is optional but agreement itself is not. Compare the well-formed (8) and (8a), where the adjective agrees in place with the noun, with the ill-formed (8b) below:

8b) LIS: *BOOK _{LFT}   LITTLE _{RGT}

Only in LIS both agreements are well formed: what is important in this case is that noun and adjective have to be articulated in the same place/location.

The same holds for verbal agreement because it is the place which locates the arguments to agree with the verb: thus many languages show overt verbal agreement based on gender or class but these depend on the gender of the subject, while in LIS the PLACE on which verbal agreement relies is freely established by the speaker at least for the 3rd person.

Two languages in which simple tenses show agreement based on gender/class are Swahili and Veneto (regardless of the variety):

9) Swahili: **ny**umba **i**mebomoka
house-c9 *has fallen*-c9

9a) Swahili: *__ch__umba **ki**mebomoka
house-c7 *has fallen*-c7

10) LIS: (today) HOUSE _{RGT} FALL _{RGT}

10a) LIS: (today) HOUSE _{LFT} FALL _{LFT}

11) Ven: l'àlbar**o** **el** vien sù
(al)
the tree-m. *grows*-m.

11a) Ven: *l'àlbar**a** **ła** vien sù
the tree-f. *grows*-f.

12) LIS: TREE _{RGT} GROW _{RGT}

12a) LIS: TREE _{LFT} GROW _{LFT}

Again, only LIS allows the speaker to decide which place assign to the noun HOUSE (10, 10a) or TREE (12, 12a) to subsequently make it agree with the verb. On the contrary Veneto and Swahili verbs do show overt agreement with the subject (through a prefix or a clitic) but the gender/ class of the subject itself cannot be changed by the speaker (9a, 11a).

Thus the sentence (10) taken from taken from V.M.Pick (1988, p. 72) is well formed but the class-9 noun NYUMBA cannot be turned into a class-7 noun. (Note: "chumba" exists but means "room" and not "house"). Likewise, northern Vèneto may employ the masculine verbal clitic *al* while other varieties use the masculine form *el*, but in no way can the noun ÀLBARO receive a feminine ending and agree with a feminine verbal clitic.

In Italian Sign Language such constraints do not exist, although a form of agreement is required.

Indeed, the presence in the LIS morphology of a "discretional" or "arbitrary" feature to mark nouns and make them agree with adjectives, pronouns or verbs accounts for the great flexibility of LIS, even in absence of a case inflectional system like those we can see in some oral languages.

Moreover, apart from "left" and "right" , other 3rd person locations can be established in LIS discourse, the important thing being not to sign words toward the listener (place for 2nd person) nor near the speaker's body (place for 1st person). This leads to a great availability of different 3rd person agreements and in turn it amplifies somehow this flexibility.

2 Overview of The Grammar of LIS

The overview presented here is intended to provide a basic knowledge about the morphology and the syntax of LIS necessary for the analysis of the LIS restrictive relative clauses discussed in chapter 3.

2.1 The Noun Phrase

LIS nouns can be marked for PLACE and NUMBER. As seen above, they can be assigned a place in order to make them agree with the other parts of the sentence, be they verbs, adjectives or pronouns. The way this place feature is realized, however, depends on the phonology of the nouns themselves: obviously those which are signed in the neutral space, i.e. have no fix location, can be freely moved everywhere in order to give them a place feature. On the other hand, nouns which *contact* the signer's body have a fix place of articulation (e.g. the signer's chin, or front...) and so cannot be realized elsewhere in the space: in this case the whole body of the speaker can be tilted left or right while performing the sign. Otherwise the place can be realized as an independent sign after the noun (index).

13) MOTHER <ind>**LFT**   CHILD**RGT**   **LFT**PHONE**RGT**

   (the) mother there   (the) child   that-phones-this   (=she phones him)

The mother phones his/the child

While the noun CHILD can be signed in a specific 3rd person place/location (i.e. on the right), the subject MOTHER need be performed near the signer's body an so must be addedd an index (roughly translatable as *"there"*) which gives it a place (in this case, left) to subsequently realize agreement with the verb. Indexes, however, can be inflected for plural.

Also the marking of NUMBER is strictly depending on the phonology of the sign, namely on the same distinction between signs which contact the signer's body and signs which do not. However also the marking of *distributiveness* plays a role this process, as will be seen later.

2.1.1 Plural and Distributive of nouns

Nouns which do not contact the body, i.e. can be freely moved in the space, are *synthetically* marked for plural through reduplication. For example the duplicated sign TOWN-TOWN means «towns», and the duplicated sign TREE-TREE corresponds to the English «trees». It must be noted that reduplication to express plurality is not pantomime but is used also in many oral languages, as for example *Bahasa Indonesia*, so that LIS PERSON-PERSON corresponds to the plural «people» in the same way as Indonesian ORANG-ORANG translates the English plural «people» (example from Soravia, 1995, p. XVI).

Compare the (14) and (15) below:

14) LIS: PERSON   ---plural-->   PERSON-PERSON
      person   *people*

15) Ind.: ORANG   ---plural-->   ORANG-ORANG
       person   *people*

Differently from their Indonesian counterparts, LIS nouns undergo reduplication even when other pluralizing words appear in the sentence: that is, when some numeral follows the noun this inflects for plural. See below the LIS noun phrase (14a) and its Bahasa Indonesia counterpart (15a) in which a numeral appears:

14a) LIS: PERSON-PERSON   THREE
     Three people *(persons-pl.)*

15a) Ind.: TIGA   ORANG
         three   *person*-sg.
     Three people

On the contrary LIS nouns whose phonology does not allow reduplication (e.g. those which contact the signer's body) never inflect and retain their base form even in the plural. If the sense of plurality is not recoverable from the context they can be marked for plural *analytically* by adding signs meaning "some" or "many". See the example in (16) taken from (Pizzuto, 1987, p.188):

16) LIS: WOMAN   MANY
      woman/girl   plural mark
   The women / girls , Many women / girls

Nevertheless, some nouns which contact they body, do show a special inflection for SMALLCAPS_DISTRIBUTIVE plural, i.e. it seems that in LIS distributivity must not be confused with plurality, although the former implies the latter. This is consistent with the behaviour of other languages (e.g. in Māori adjectives are usually not inflected for plural, but they may undergo reduplication when a shade of distributiveness is involved).

In LIS it seems that the distributive form may appear as triplication of the base form of the sign (e.g. WOMAN-WOMAN-WOMAN) rather than simple reduplication, as is also the case of distributive verbs (see 2.4.4.). Also the agreement with adjectives has some differences in compare to the simple plural, as will appear clear in paragraph 2.1.3.

2.1.2 Noun and Determiners, Deictics and Numerals

LIS seems not to have any overt determiners corresponding to English "the" or Italian "il, la, i, le"; accordingly the sentence "The LIS course starts at 10 o'clock today" is translated the following way:

17) TODAY   COURSE   LIS   START   10
      today   **(the)** *course*   *(of) LIS*   *starts*   *at 10 o'clock*

Still LIS does have demonstrative deictics which translate the idea of "this, that" often conveying also the idea of "the former, the latter" .

Demonstratives are accompanied by a specific topic facial expression spreading over the entire NP (see 2.5.8) and their movement is quicker and more tensed than in indexes, deictics which in many respects behave as inflectional morphemes or at least clitic pronouns. LIS also has some specific signs representing the meaning "one (specific)" or "one (whatosoever)" thing or person and there is also a particular deictic specific for aforementioned entities besides emphatic demonstratives which convey the idea of "this very Y... / that very X.../ exactly he...". This too parallels the behaviour of some oral languages.

Before starting the description of these deictics, some observations are in order to be made.

First of all, it must be recalled that **nominal indexes** are special deictics since they **assign a PLACE feature** to the noun, while all other deictics (included verbal indexes) refer back to a noun already given PLACE. They can be roughly translated as "there", but they have different forms according to singular or plural number: for example the sentence (13) above in the plural becomes as follow:

18) MOTHER <*ind-group*>LFT   CHILD-CHILDRGT   LFTPHONERGT
   (the) mothers there-pl.   *(the) children*   *those-phone-these*   (=they phone them)
The mothers phone their/the children

The noun CHILDREN has a reduplicated plural form (though somehow stylized and resulting in a whole sign which moves quickly in the visual-space) and is directly given a PLACE, whereas the noun MOTHERS is assigned PLACE through an index, which must agree in plural number with the noun: note however that the noun itself does not display the plural with an overt form and this can be inferred only by the presence of a plural index glossed here as <*ind-group*>.

In LIS, indeed **all deictics usually follow nouns and inflect in PLACE and NUMBER.**

Demonstrative deictics also usually serve as independent 3RD person pronouns as happens in many languages, so that in the next paragraphs they will be translated either as HE/SHE/HIM... or as THIS/THAT depending on the context and reasons of clarity (see 2.2.2, 2.4.2 and 2.5.1). As will be explained further, moreover, in some case they perform a function similar to that of English and Italian determiners (e.g. in the case of some relative sentences).

As for **verbal indexes**, they will be dealt in the paragraphs related to the verb but it must be borne in mind that they**, though having the same shape and movement of demonstratives, bear a different facial expression**.

Demonstrative deictics require the topic facial expression (raised eyebrows, see 2.5.8) spreading over the entire NP as for example:

   -------------------- **eyebrows raised** ---------------------
19) LIS: STUDENT   THAT LFT / THAT RGT
   That student

              -------------------- **eyebrows raised** ---------------------

20) Ind.: STUDENT   THOSE _{LFT} / THOSE _{RGT}

       Those students

As can be seen in (19) and (20), deictics too bear the feature PLACE but also inflect for NUMBER, as pronouns do, because they have a specific form for plural: while the singular form of the sign indicates one specific point in the space, the plural form has a movement which represents an imaginary line passing through different points (as if it were a stylized quickly repetition of the singular form), all near one PLACE. This linear movement usually goes outwards from in front the speaker: the left hand moves leftwards and the right hand moves rightwards.

In sentences (19a) and (20a) the 3rd person pronouns are shown, having the same form as the deictics in (19, 20). The special facial expression does not spread over the VP:

     ---br. raised ---   **---br. raised ---**

19a) THAT _{LFT}   _{LFT}SPEAK₁   or   THAT _{RGT}   _{RGT}SPEAK₁

    That / (S)he   (s)he-speaks-me

That *(or* he/she*)* speaks to me

     ---br. raised ---   **---br. raised ---**

20a) THOSE_{LFT}   _{LFT}SPEAK₁   or   THOSE _{RGT}   _{RGT}SPEAK₁

    Those/They   they-speak-me

Those *(or* they*)* speak to me

One should pay attention to the fact that in LIS the verbal inflexion usually marks the subject by itself, so that in (19a, 20a) the sign _{LFT}SPEAK… already translates the 3rd person HE-SPEAKS or THEY-SPEAK and the demonstratives/personal pronouns are optional.

Indeed these work much more like the Italian LUI/LORO or the French LUI/EUX independent pronouns; on the contrary the verbal direction and indexes behave much as personal morphemes (ital. *parla, parlano* ... engl. *speaks*) and remind in some respects the French clitic pronouns IL/ILS although this equivalence is empirical and must be gone through deeper.

This because the LIS verb «_LFT_SPEAK‥» is better rendered by it. "*parla(no)* a..." or by fr. "*il(s) parle(nt)* avec..." while the LIS form «THAT _LFT_   _LFT_SPEAK‥ » reflects the meaning of it. "***Lui/Egli*** *parla* a... / ***Quello*** parla a..." and fr. "***Lui*** *il parle* avec...".

English however has nearly lost the personal morphemes and does not distinguish independent/emphatic pronouns from clitics so that the English glosses could be ambiguous sometimes. For the purpose of the present work, the verbal direction (or the verbal indexes which replace it) will be glossed as hyphenated pronouns "he-speak-me , they-think-you..." whereas independent pronouns and demonstratives will appear as separate words.

Demonstrative deictics, like emphatic pronouns, can show special dual or trial forms in addition to the general plural number thus compressing into one sign the meaning of "those two / they two / both of them" or "those three / they three" (see 2.2.2).

As for numerals, it is worth noting that these too follow the head in the NP, i.e. the phrases «three students, four houses» are translated into STUDENT THREE , HOUSE-HOUSE FOUR according to the grammar of LIS: if the noun overtly inflects for plural it shows reduplication. In addition to this, since demonstratives show special "numerical" forms, numerals can be expressed directly with such deictics and need not always appear as independent signs.

For the purpose of the present work, it is also worth noting that LIS possesses a *special deictic* (henceforth DE) *with only an anaphoric meaning* employed for aforementioned entities , i.e. it is used exclusively when referring back to an entitiy previously given in the speech. This anaphoric deictic corresponds to the *prorel* described by Zucchi, Cecchetto and Geraci (*2004)* in their study about correlative sentences.

Still, according to my data, this anaphoric deictic is not restricted to correlative sentences. When asked whether it can "stand-alone" , my informants claimed it could also be employed sentence-initially in main clauses and provided the following example.

A is inviting *B* to meet for a spritz *(a translation in English follows)*:

A: ...well, we'll meet in bar *X* tomorrow, ok?

B: but where is the bar *X*?

A: it's that nice bar with an inside garden near the post office

B: hmm...I've never heard of such a bar here.

A: Ok, don't worry: we'll meet at the post office and then we'll go that bar together

The next day, they meet and go to the bar. Having reached the bar *A* wants to tell *B* that «*that* is the bar» he was describing the day before (not *that* bar as opposite to a certain *this* bar or other bars).

Therefore he signs the sentence (21):

21) <DE>   BAR!

  That   (is)   (the) bar

That is the bar (*the one* I told you about, yesterday)

Under certain conditions the sentence can be reduced simply to this deictic, letting the listener recover the meaning from the context much more as in:

21a) <DE> !

(It 's) Exactly that ! *(I was telling you...)*

Other sentences involving <DE> can be of the following kind:

22) GIRL   <DE>_{LFT}   _{LFT}SIGN₁

  Girl   this (I told you)   she-signs-me

This girl *(yesterday I told you about...)* has "spoken" to me / is "speaking" to me

The verb "spoken" is understood as "spoken in sign language", i.e. not with the mouth. The litteral translation would be "she has signed to me / she is signing to me" as indicated in the gloss.

During the dialogue with my informants they pointed out that there is also *another specific deictic used* not for mere identification but *to emphasize one NP* avoiding confusion with other NPs as for example when saying «I spoke/signed *to that very* man!» (not to the others, among many given in the speech). It also serves as emphatic pronoun in such sentences as «I spoke/signed *to him*!» (in contrast to *her* or other people given in the speech and assigned a place in the signing space). This emphatic deictic is realized with two hands pointing to the same PLACE, one forefinger being fixed towards that location and the other performing a repeated movement toward the location (it signs THAT-THAT).

For an example of usage look at (23) below:

23) $_1$ASK$_{RGT}$ THAT-THAT$_{RGT}$
                            <ind.>$_{RGT}$

  I-ask-him   *THAT! HIM!*

I asked *him/that!*   (not others).

In (23) the pronoun THAT/HIM is given emphasis in order to make clear the fact that "I asked *him*" (in contrast to other possible people). In this case the pronoun can follow the verb.

Apart from the 3rd person singular, which requires the use of two hands, the emphatic forms usually consist roughly of a repetition of the base demonstrative/pronoun form, i.e. I-I$_1$, YOU-YOU$_2$, THOSE-THOSE$_{LFT}$ (=they-they$_{LFT}$). In the plural form the repetition results in a circular movement drawn twice around the same PLACE.

Both the emphatic and the anaphoric deictic will be recalled in the parargraph dealing with relative clauses.

2.1.3 Noun and Adjectives: agreement

Adjectives agree in PLACE with nouns and always follow them (again place is assigned by the speaker). They do not show overt agreement in number like in English and this can be easily verified with inflectable nouns. As for place you can see below:

24) Ital: grande/grossa   città
         big-f.   *city*-f.
	24a) Ital: *grosso città
	           big-m. *city*-f.

25) LIS: CITY _{RGT}   LARGE _{RGT}
      city   *big*
	25a) LIS: CITY _{LFT} LARGE _{LFT}
	       city *big*

Note that in (24,24a) the adjective "grossa" is used because "grande" does not show variation between masculine and feminine.

As explained in paragraph 1.2.3, although place is freely set by the speaker (25,25a) agreement must always exist between a noun and its adjective. Look at (25b) below:

25b) LIS: *CITY _{RGT}   LARGE _{LFT}   or   *CITY _{LFT}   LARGE_{RGT}

As for number, compare the following sentences:

26) Engl: *big cities*	26a) Engl: **bigs* *cities*

27) LIS: CITY-CITY_{RGT}   LARGE _{RGT}
      cities-pl.   *big*
	27a) LIS: *CITY-CITY_{RGT} LARGE-LARGE_{RGT}
	          cities-pl. *bigs*-pl.

It must be remembered that reduplication involves a sort of movement so that the repetition "city-city" is *not* performed *exactly* in the *same point*, though it is realized *near an imaginary point* at the left or the right of the speaker thus maintaining agreement in place with verbs, deictics and pronouns.

The sentences (27a) and (26a) prove that no overt number inflection is possible for adjectives in LIS just as it is not possible for their English counterparts, while there is place agreement (27).

Nevertheless, it seems that in LIS a special agreement may take place between nouns and adjectives when the *distributive (plural)* is involved.

Thus in (28) the sentence *«I went to (each of) the big cities»* is rendered in LIS:

28) CITY_{RGT} LARGE_{RGT} CITY_{MID} LARGE_{MID} CITY_{LFT} LARGE_{LFT} ₁GO_{RGT} ₁GO_{MID} ₁GO_{LFT}

Although more research is needed into this issue, it turns out that in LIS the DISTRIBUTIVE is treated as a realization of different individual instances of the same singular NP, each one agreeing in its own PLACE with its adjective. Moreover, also in the verbal inflection each NP appears to be an independent singular argument agreeing individually with the verb according to its own PLACE.

In the bare plural (27), on the contrary, there is a reduplicated form acting as a whole NP which agrees only *once* with the adjective. It also acts as a whole with respects to the verb, with which it agrees only once, so that (27) could be inserted successfully in a sentence like *«I have never gone to big cities / I have never been to big cities»* in (29):

29) CITY-CITY_{RGT} LARGE_{RGT} ₁GO_{RGT} NEVER

This suggests that NUMBER and DISTRIBUTIVITY are different categories in LIS.

As for superlative and comparative degrees of the adjective, they are often marked with special non-manual components performed while signing the plain form of the adjective (Franchi, 1987).This can be followed by special adverbs meaning "MORE/MUCH/VERY".

2.1.4 Word order within the NP

The word order related to the NP in LIS seems to be: $_{NP}$[*N Adj [Num+Dem]*] *(ø-cop) PredAdj* where **N Adj [Num+Dem]** is within the NP, while the adjective acting as a predicate (if present) is outside and follows a phonologically null copula. The formula *[Num+Dem]* also indicates that the numeral, although usually occurring before the demonstrative, can be incorporated in it.

See for example (30) which refers to some "tall students" already given in the discourse:

```
                  ------------------------ brows raised ------------------------
30)  STUDENT(LFT)  TALLLFT   THOSELFT    GOOD
       student/s      tall       those     (are) good
Those tall  students are good
```

As already said, adjectives in LIS always follow the noun but the attributive adjective (TALL) is inserted in the slot between the noun and the deictic, whereas the adjective acting as a predicate (GOOD) follows the deictic and a copula (*to be, is, are*) is understood between them. In fact, although GOOD is not inflected for place, it is linked to the noun by a copula which is not overtly realized but can be inferred by the listener from the fact that the predicate itself follows the deictic, which in turn follows the adjective(s) and the noun. The noun STUDENT(S), although contacting the signer's body, can be assigned a place by slightly tilting the body leftwards or rightwards.

Also the special facial expression marking topics helps to recognize the attributive adjective (internal to the NP, raised eyebrows) and the predicative adjective (external to the NP, neutral expression).

This structure recalls, mutatis mutandis, that found in Hebrew:

31) Hebr: hatalmidim   hagavohim   haele/hahem   tovim
         the-students   the-tall-pl.   *the-these/those   (are) good*-pl.

Deictics of LIS seem to inflect not only for singular and plural but instead they often also have special forms expressing dual, trial and even quattrial and quinquial: the imaginary line of non-singular can be drawn with the forefinger open only (general plural), with two fingers open (dual), three fingers (trial) , four fingers (quattrial) or the palm open (five fingers: quinquial). This will be explained better if paragraph 2.2.2.

2.2 Personal pronouns

Like every language, LIS uses personal pronouns to refer to entities already mentioned in the discourse. Still, the LIS pronominal system is very different from that in oral Italian and reminds somehow of the pattern of some "exotic" languages: at first sight one can be surprised for the richness and the apparent oddness of LIS pronouns but a rapid comparison will show that the LIS system matches quite well the Māori pronominal system, for example. It must be remembered that 3rd person pronouns are the same as demonstratives.

In fact, although generally LIS pronouns are not inflected for CASE (e.g. they do not distinguish Nominative from Accusative), *they inflect for PLACE and NUMBER* distinguishing up to 5 different places and up to 6 numbers and also showing *INCLUSIVE/EXCLUSIVE forms*.

In LIS only genitive case seems to involve a special marking on pronouns, which is not always compulsory according to the data collected from my informants.

Nominative and accusative/oblique, on the contrary, appear in one and the same form, though generally in a plain sentence the subject tends to be spelled out before complements (but place is always freely set by the signer). So the sentences (32, 33) are different only in that their word order changes (and the verb SIGN accordingly changes its DIRECTION of agreement with the arguments) , but the arguments themselves do not show overt variation for case.

32) THAT$_{LFT}$ YOU$_2$ $_{LFT}$SIGN$_2$	32a) THAT$_{RGT}$ YOU$_2$ $_{RGT}$SIGN$_2$
he/that you he-sign-you	
He signs (="speaks in LIS") to you	*Same meaning as (32)*
33) YOU$_2$ THAT$_{LFT}$ $_2$SIGN$_{LFT}$	33a) YOU$_2$ THAT$_{RGT}$ $_2$SIGN$_{RGT}$
you him/that you-sign-he	
You sign (="speak in LIS") to him	*Same meaning as (33)*

Note that changing PLACE does not automatically involve different case-marking: the "left-sided" subject HE/THAT (32) can be signed at the speaker's right side (32a) without any changes in the meaning. In the same way, the object HIM/THAT can be signed in different places regardless of its syntactic function in the sentence (33, 33a) and finally the pronoun YOU always retains its **2**-PLACE regardless of its acting as subject (33) or object (32) of the verb.

The same holds for verbs lacking inflexion, although in this case it is realized by indexes; for example rewriting (32) and (33) with the verb DREAM, which does not change its DIRECTION, would result in (34) and (35) below:

34) THAT_{LFT}   YOU₂   *<ind>*_{LFT} DREAM *<ind>*₂

   he/that   *you*   *he-dream-you*

He dreams about you

35) YOU₂   THAT_{LFT}   *<ind>*₂ DREAM *<ind>*_{LFT}

   you   *him/that*   *you-dream-him*

You dream about him

A deeper analysis of verbal indexes is to be found in paragraph 2.5.1 related to the word order of plain declarative sentences.

At any rate, the examples above also suggest that the distinction between independent pronouns (with raised brows) and indexes (neutral expression) may hold not only for the 3rd person but even for 1st and 2nd persons: my informant indeed claimed that the pronouns YOU₂ and THAT/HE_{LFT} must be signed with raised brows, differently from the indexes accompanying the verb.

In other words (34) and (35) should be rewritten as follows:

   ---br. raised ---   ---br. raised ---
34a) THAT_{LFT}   YOU₂   *<ind>*_{LFT} DREAM *<ind>*₂

   he/that   *you*   *he-dream-you*

He dreams about you

   ---br. raised ---   ---br. raised ---
35a) YOU₂   THAT_{LFT}   *<ind>*₂ DREAM *<ind>*_{LFT}

    you   *him/that*   *you-dream-him*

You dream about him

Moreover the 2nd person sg. pronoun clearly precedes the verb always while the 2nd person index follows it when it represents a direct object (35). I leave the issue open for further research.

2.2.1 Inclusive and Exclusive

With this in mind we can turn our attention to the distinctions overtly marked in the pronominal system of LIS: if on the one hand LIS doesn't have a rich case-marking on pronouns, on the other hand we have seen that it does have a rich inflection for place, number and inclusive/exclusive forms. Compare the LIS and Māori pronominal systems, for example, as proposed in 2.2 above.

Māori distinguishes an inclusive form and an exclusive form for the 1st persons (both plural, and dual) to indicate if the listener is included or excluded from the group of people referred to as "we". This means that the english "we two" can be translated in two ways: TĀUA which means "I and you" (inclusive) and MĀUA which express the idea of "He/She/It and me" (exclusive). The same holds for plural, of course, and so does LIS: there are forms meaning "we all, including you" and "we all, but not you".

The way LIS expresses person and inclusive/exclusive forms, however, relies on PLACE so that the different pronouns look as if they originated as I-YOU (we two: inclusive) , I-HE/SHE (we two: exclusive), YOU-HE (you two), I-YOU-HE (we three: inclusive), WE-YOU (we all: inclusive), YOU-THEY (you all), and so on depending on PLACE-**1**, PLACE-**2**, PLACE-**3** position...

Attention must be paid to the fact that it is not a mere juxtaposition of the sign *I* and the sign *He* or *You*, but a specific shape/configuration is required.

It will be recalled that in LIS there can be different 3rd person PLACEs (it has many place-**3** positions like English has different 3rd person genders). Consequently different inclusive and exclusive combinations can be generated to identify different referents in the speech. For example there is the movement I-HE$_{LFT}$ different from I-HE$_{RGT}$ which allows to identify correctly two male persons in the same discourse (or two feminine persons or neuter entities as there is no gender marking in LIS). English on the contrary does distinguish forms such "He and me" from "She and me" but they depend on the gender of the entity referred to.

Indeed these non singular pronouns in LIS are represented by a movement which passes through different points, each corresponding to one PLACE: **3**-left, **3**-right, **2**, **1** and so on.

Thus, a sign moving through the **2**-PLACE location generates inclusive forms while others produce exclusive forms, e.g. the sign indicating "I$_1$-and-YOU$_2$" gives the inclusive dual pronoun WE_TWO$_2$ while the sign pointing at "I$_1$-and-HE$_{LFT}$" gives the exclusive dual pronoun WE_TWO$_{LFT}$ which refers to *me and the person whom I had signed at my left*

2.2.2 Pronoun Number and numeral incorporation: Dual, Trial, Quattrial, Quinquial and Plural

As for NUMBER, it is realized as follows on LIS pronouns and demonstratives: the hand drawing a line with the forefinger alone expresses the plural, two fingers express the dual, three fingers represent the trial, four indicate the quattrial and all the fingers open realize the quinquial number. In other words, numbers other that singular and plural are formed with numeral incorporation obtained through changes in the parameter SHAPE (configuration). Also changes in ORIENTATION are observed.

Māori too has some pronouns such as RĀUA, KŌRUA which compress into one word what English expresses with two words: indeed, KŌRUA means "you two, both of you" and RĀUA translates the english "both of them". The same does LIS which, besides singular and plural, also has specific forms for dual number. LIS, however, goes further and exhibits a full set of forms for trial, quattrial and also quinquial number. It must be recalled, however, that these forms, despite being glossed as compound words, consist of *one* sign in LIS. To have an idea of what this means we can imagine how English would sound if it could incorporate numerals into pronouns, e.g. compressing the form "we two" into *one* word ***TWE** (recall the example about "once/twice" in 1.2.1) or packing "they three" into ***THREY** or how italian would sound if "voi due" became ***VUE**.

Place also provides the marking for inclusiveness/exclusiveness and the distinction of different 3rd person entities implied by such pronouns as "you_two, we_two" (as seen in 2.2.1). Indeed, one can perform one sign pointing at "I-and-HE$_{LFT}$" thus creating the 1st person exclusive dual "left-sided" pronoun WE_TWO$_{LFT}$ or perform another sign indicating "I-and-HE$_{RGT}$" in order to create the 1st person exclusive dual "right-sided" pronoun WE_TWO$_{RGT}$.

All this availability of places and numbers provides a great flexibility in the organization of LIS discourse. So, given the context: *"Yesterday John, Mark and I were on the beach"* the following sentence would be ambiguous in English: «We two played volleyball , then we two had a good ice-cream, than some friends arrived and we went swimming». The obvious question would be: *We two, who? I and Mark or I and John?* Nor the ambiguity would be resolved saying *He and me* as two male people are involved in the scene so that two "HEs" must be used, what maintains the confusion. LIS, on the contrary has no such ambiguity because MARK and JOHN, though referring to two male people, can be assigned two different places so that later two different 1st person exclusive dual forms are possible.

It is much more as if the pronouns involved were THIS and THAT rather than HE and HIM leading so to the creation of dual forms like "I-and-THAT" and "I-and-THIS". Along this work they will be glossed either as pronouns or demonstratives according to the context.

For example the following sentence could be signed:

36) YESTERDAY MARK_{RGT} JOHN_{LFT} I₁ WE_THREE   BEACH   THERE
    yesterday   *Mark*   *John*   *I*   *we-three*   *the beach* *(were) there*
Yesterday Mark, John and me were on the beach

Then the speaker can sign (37) and (38), thus maintaining clear the entities referred to:
37) WE_TWO_{LFT}   PLAY-VOLLEYBALL
    1*st-excl.-left*-dual
We two played volleyball (*we two = I and he_{LFT} = I and John*)

38) WE_TWO_{RGT}   HAVE-ICECREAM
    1*st-excl.- right*-dual
We two had an ice-cream (*we two = I and he_{RGT} =I and Mark*)

Finally the speaker signs:
39) FRIEND MANY COME [pause]   WE   SWIM
     friends   1*st*-pl.
Some friends arrived and we went swimming   *(we = we all)*

Also 2nd person signs can move to and from different 3-places thus including different "HEs" (or SHEs, or ITs) in the idea of "you... you two... you-and-he...": so a dual configuration movement meaning "You-and-HE_RGT" will create the 2nd person dual "right-sided" pronoun YOU_TWO_LFT whereas the movement "You-and-HE_LFT" will produce the 2nd person dual "left-sided" pronoun YOU_TWO_LFT.

In the above sentences, for example, the sign YOU_TWO_LFT would refer to *"You and John"*, as John had been assigned PLACE-**LFT** at the beginning of the discourse, while the pronoun YOU_TWO_RGT would refer to *"You and Mark"*, as the name Mark had been signed in the PLACE-**RGT** location.

The richness of the LIS pronominal system can be captured looking at the following table where it is represented, having Māori as model, in comparation to English.

	Singular	Dual		Plural	
		(Inclusive)	*(Exclusive)*	*(Inclusive)*	*(Exclusive)*
1st	Ahau I₁	Māua WE_TWO₂ *I and you*	Tāua WE_TWO_LFT/RGT... *I and he/she/it_LFT* *I and he/she/it_RGT*	Mātou WE₂_THREE_LFT/RGT WE₂_FOUR_LFT/RGT WE₂_FIVE_LFT/RGT WE₂_(ALL)_LFT/RGT... *including you*	Tātou WE_THREE_LFT/RGT WE_FOUR_LFT/RGT WE_FIVE_LFT/RGT WE (ALL)_LFT/RGT... *without you*
	I (me)	**We (us)**			
2nd	Koe YOU₂ *(thou)*	Kōrua YOU_TWO _LFT/RGT... *You and he/she/it_LFT* *You and he/she/it_RGT*		Koutou YOU_THREE_LFT/RGT YOU_FOUR_LFT/RGT YOU_FIVE_LFT/RGT YOU (ALL)_LFT/RGT...	
	You				
3rd	Ia HE_LFT/RGT... *or* THIS/THAT	Rāua RGT/LFT...THEY_TWO_LFT/RGT... *(S)he/It_RGT and (s)he/it_LFT* *(S)he/It_LFT and (s)he/it_RGT* ...		Rātou THEY_THREE_LFT/RGT THEY_FOUR _LFT/RGT THEY_FIVE _LFT/RGT THEY (ALL) _LFT/RGT	
	(S)He, It, Him	**They (them)**			

From this comparison it appears clear that LIS, despite beeing sometimes considered a pantomime by some hearing people, is a real language with a rich structure whose apparent "oddities" often correspond to features that can be found in oral languages too. LIS often also goes further: so the combination of Incl/Excl forms with plural and dual numbers matches the pattern of Māori, for example, but LIS then goes a step further in that it also distinguishes other numbers which Māori packs in one form together with the general plural. English and Italian, on the contrary, do not to show such a rich pronominal system. LIS then displays free assignment of PLACE while other languages do not do the same with GENDER.

In the table above, note that places are marked only when they cannot be understood.

For example: YOU_TWO$_{LFT}$ is automatically understood as if it were $_{(2)}$YOU_TWO$_{LFT}$.

Accordingly, the exclusive form WE_THREE$_{RGT}$ can only mean $_{(1)}$WE_THREE$_{RGT}$ (i.e *I and them/those two people which I have previously signed at my right*)

Similarly, the dual pronoun WE_TWO$_2$ is clearly read as $_{(1)}$WE_TWO$_2$ and only the place-2 must be written to show that this is not an exclusive form but an inclusive one.

In the same line, an inclusive plural form like WE$_2$_ALL$_{RGT}$ rather obvioulsy means $_{(1)}$WE$_2$_FIVE$_{RGT}$ since it conveys the idea of "I -You$_2$ -and-Them/Those$_{RGT}$". Again place-2 is written only to mark inclusiveness, indicating that the sign is moved through the location which refers to the 2nd person.

On the contrary, 3rd person non singular pronouns always imply all different 3rd person entities which therefore need be explicitly glossed; thus the form $_{RGT}$THEY_TWO$_{RDG}$ for example means "He/She (on the right)-and-He/She (on the right diagonal)" referring to the noun previously located on the signer's right together with another noun which was had been signed on his right but slightly in front of him.

The following pictures provide some example of 1st dual inclusive, 1st dual "right-sided", 1st quattrial (incl.) and 1st (general) plural person pronouns in addition to a 2nd quattrial person pronoun. The photos are taken from Volterra and from Radutzky.

WE_TWO₂ (=inclusive: I-and-you) WE_TWO_RGT (=*exclusive*: I-and-he-on-
-the-right , *not you*)

WE_FOUR₂ (=inclusive: we-three-and-you) WE (ALL)₂ (=incl: We all-and-you)

YOU_FOUR

The dual forms, though having the same configuration and the same repeated movement, involve different places: PLACE-1 + PLACE-2 for the 1st incl. pron. and PLACE-1 + PLACE-RGT for the 1st excl. "right-sided" pronoun. Indeed the

The quattrial forms share another configuration but the 1st person pronoun is performed near in PLACE-1 the signer's body (though *indicating* also the the listener/seer to mark inclusiveness) whereas the 2nd person pronoun is signed far from the speaker/signer: of course, it is always inclusive. The plural form is a line drawn with the forefinger.

2.3 Possessives and possession

Although LIS does not have a rich case marking, it can employ special genitive forms for possessives: anyhow, these forms are not compulsory since base Nom/Acc pronoun also function as possessives.

According to my data, a special emphatic genitive only exists for the 1st and 2nd person singular and for the 3rd person: they have SHAPE-G but contact the possessor with the inner or outer side of the forefinger, instead of pointing it normally (as does the base Nom/Acc form). Also genitive with SHAPE-5 or SHAPE-B exist. In the following paragraph different constructions will be taken into account.

2.3.1 Possessives and "nominative" possessives

The use of forms omophonous to base Nom/Acc pronouns in LIS possessive constructions (40) often reminds of Hungarian (41) except for the reverse word order:

40) LIS: JACKET I_1

      Jacket   *I*-nom.

 My   jacket

41) Hun: (Az   en)   kalapo*m*

      The   I-nom.   *hat*-1st-sg.

My   hat

I cannot tell whether the LIS sign *I* is really an independent nominative pronoun like *En* is in Hungarian, or if it is a 1st person index *<ind>*$_1$ performing the agreement function of the Hungarian ending –*m*. Anyhow, a correspondence between (40) and (41) exists and must be stressed since both the independent pronouns *En = I* on the one hand, and the inflectional index/ending -*m = <ind>*$_1$ on the other hand, maintain the same form , be they subject marks or possessive marks. (The Hungarian ending –*m* too also serves as verbal subject agreement suffix, indeed).

Still, the LIS possessee does not show overt agreement with the possessor, i.e. it is not signed in the same place where the possessor has been previously located; indeed this "nominative possessive" construction is very frequently used in italian sign language even when the possession does not involve any pronoun:

42) JACKET   TEACHER_(LFT/RGT…)

The teacher's jacket

43) COURSE LIS START 10

The course of LIS starts at 10 o'clock

However, LIS exhibits also special genitive forms whose use seem to depend on the variety signed by the speaker according to my data: some informants attach an emphatic function to these forms, while others claim that they are just the only possible way to express possession. As said before, these signs share the same SHAPE (config. G) and PLACE with their corresponding nominative/accusative/oblique pronouns but they show remarkable differences as for ORIENTATION and MOVEMENT since they do not point directly to the possessor but with the lateral side of the forefinger. Nevertheless also special genitive forms follow the possessee.

Here one can compare the base form of 1st, 2nd and 3rd person singular and their genitive (emphatic) counterparts. The photos are taken from Romeo (1996): although in this dictionary the signs "I, YOU, HE" are glossed only as nominatives/accusatives and not as possessives "MY,YOUR,HIS" (translation only given for the signs of the 2nd column below) the data collected from informants reveal that forms resembling this Nom/Acc *are* used also in possessive constructions like (40). Remember however that I failed to see whether in this case the form is a really independent pronoun or an index working as possessive morpheme.

Base form I/ME (my)   MY (informants claim it is specific for emph.genitive)

Base form YOU (your)   YOUR (informant claim it is specific for emph.genitive)

Base form HE/HIM/IT (his)   HIS/HER/ITS (specific for emph.genitive)

It must be noted that in Romeo (1996) the possessive forms listed in the second column above are not indicated as emphatic genitives but as normal possessive forms whereas some of my informants claimed they are used only on special situations where stressed is required.

This means that some signers translate the English phrase *"My jacket"* in two ways: a normal "nominative" possessive construction with a form omophonous to the base Nom/Acc pronoun (40), here repeated as (44), and an emphatic genitive possessive represented in (44a).

44) JACKET I	44a) JACKET <u>MY</u>
Jacket 1st.sg.-nom.	*Jacket* 1st.sg.-gen.-emph.
My jacket *(normal)*	<u>My</u> jacket *(spec. emphatic genit.)*

When the possessor is a noun another special construction is possible (45, 47): in this case the possessor precedes the rest of the sentence and the possessee is followed by a 3rd person pronoun agreeing in PLACE with the possessor:

45) TEACHER_{LFT}   JACKET   HE_{LFT}
    Teacher-"leftside"   *jacket*   3rd.sg."leftside"-nom.

      The teacher his jacket
      The teacher**'s** jacket

This form too reminds of a Hungarian possessive construction alternative to the one seen previously: literally, this Hungarian form would sound in English "To the teacher, his jacket".

Afrikaans too shows a construction resembling the LIS (41) above, as is evidence in (46, 46a, 46b) below:

46) Afrk.: Jan se boek   *(colloq. Dutch: Jan z'n boek)*

        Jan his book

   Jan's book

It is employed with both animate and inanimate possessors *(Donaldson, 1993)*:

46a) Afrk: Piet se vrou

        Peter his wife

    Peter's wife

46b) Afrk: Dié gebou se dak

        This building its roof

  The roof of this building

In LIS, when the possessed noun need be located, e.g. to agree with a verb, an index is added after the possessive mark and is linked to it yielding one special movement consisting of a rotation of the wrist; the index gives a place to the possessed noun and agreement is subsequently realized in this new place

47) MIRKO$_{MID}$ JACKET HE$_{MID}$----*<ind>*$_{RGT}$ (I$_1$)   SEE$_{RGT}$

  Mirko-"middle"   *jacket*-3rd.sg."middle" -- "PLACE-right"   *(I) see-it* "right"

    Mirko his jacket I see it
    I see/saw Mirko**'s** jacket

Note that in (47) the possessor MIRKO is signed between the speaker and the listener, so it is given PLACE-**MID** ; it agrees in place with a 3rd person sg. possessive marker and therefore with the possessed noun JACKET: this unambiguosly indicates that the jacket belongs to Mirko and not to any other possible person involved in the discourse. Subsequently, the complex "possessee + poss.marker" is given the PLACE-**RGT** feature through an index which points to the signer's right side.

This complex is the object of the verb SEE and indeed the latter agrees with the former since both have [+RGT].

Thus, thanks to place agreement, it is unambiguously indicated that the verb SEE refers to the whole phrase "Mirko's jacket" and to no other objects: for example it is clear that in (47) I see "Mirko's jacket" (as it is +RGT) and not just "Mirko" (since this is +MID).

It must be noted that the possessive mark HE and the index are performed very close to each other merging into one movement: the wrist rotates so that the forefinger pointing to HE performs a slight bow going upward and "falling" on the new location [+RGT]: if the movement drew a plain line it would resemble the plural verbal index THEY, very similar to the plural independent pronoun THOSE/THEY.

Sometimes, also special genitive non emphatic pronouns only for 2nd and 3rd person can be employed to express possession without emphasis but avoiding confusion with base pronouns. In this case then open palm of the hand points toward the location of the possessor and the sign resembles the possessiv forms found in DGS (German Sign Language).

Accordingly (45) becomes (48):

48) TEACHER_{LFT}   JACKET HIS/HER_{LFT}
    Teacher-"leftside" *jacket* 3rd.sg."leftside"-gen. *(specific for genit without emph.)*
    The teacher**'s** jacket

In order to express possess with sentences like *"I have...she has..."* a special construction with the verb EXIST/THERE IS is required, paralleling somehow the structure of Russian or Latin У меня (ест)*... / mihi est... :*

49) I₁   JACKET   EXIST   49a) JACKET   EXIST
   (to) me   (a) Jacket   there is
I have a jacket   There is a jacket

50) MIRCO   FRIEND   EXIST
    Mirko has a friend

2.4 The Verb

The verb is perhaps the most complex element in a LIS sentence, at least from the point of view of an English or Italian speaker. The reason for this is that LIS morphology does not mark verbs for features usually marked in English or Italian, as for example NUMBER or TENSE, which is realized analytically by adverbs, while on the contrary it marks features usually not overtly visible in these oral languages, like ASPECT and PERSON AGREEMENT WITH OBJECTS. With respect to this, it is worth noting that *the verbal agreement in LIS seems to reflect the distinction between agent* on one hand *and patient* on the other, rather than subject and object: anyhow this will be dealt in 2.4.2.

Furthermore, the phonology of LIS verbs interferes heavily with the way they are signed so that some verbs show a very rich overt agreement marked *synthetically* in their morphology ; others realize it only partially, agreeing with the subject or with the object ; and other verbs are completely invariable, thus requiring an *analytical inflection* through the overt realization of indexes: although at first sight these can appear as pronouns, they are indeed very different.

Another important characteristic of LIS is that some of its verbs also allow the INCORPORATION of their object.

2.4.1 Introduction: "Extended" agreement (Subj, DObj, IObj) , Incorporation , Aspect

The verb in a LIS sentence tends to be signed as last, following the subject and the objects and shows an "extended" agreement: that is, it usually agrees with all the arguments by changing its DIRECTION, i.e. modifying the PLACE of its starting point and its endpoint to make them agree with the place of the subject and the objects. Therefore the verbal agreement in LIS is a matter of place and we can say that LIS *verbs agree in PLACE* with their arguments. They do not agree in NUMBER, however, as places employed to mark agreement with singular arguments also express agreement with plural arguments. For example the direction towards the PLACE-**2** position expresses agreement with both a 2nd person singular object/patient (51) and a 2nd person plural object/patient (51a), as is the case of modern English verbs.

51) TOMORROW   MARCO_{RGT}   YOU₂   _{RGT}PHONE₂
     Tomorrow   *Marco*   *you*-sg. (=*thou*)   *he-phones-you*
Marco will phone you (acc.*sg.* thee) tomorrow

51a) TOMORROW   MARCO_{RGT}   YOU_ALL$_2$ $_{RGT}$PHONE$_2$

    Tomorrow   *Marco*   *you*-pl. (=old *ye*)   *he-phones-you*

Marco will phone you (*old pl.* ye) tomorrow

Comparing (51) to (51a) it is easy to see that the 2nd person pronoun changes according to NUMBER despite involving always the PLACE-**2**, because the singular form is obtained simply pointing the forefinger toward that location while the plural requires the forefinger to draw a line passing through that point. On the contrary the verb simply moves to the place of the 2nd person giving its endpoint the same PLACE-**2** location as the pronoun, but no changes for singular or plural are observed. We can think of this as pronouns/indexes which reflect the number distinction between old Engl. *thou-thee* (sg.) and *ye* (pl.) but coexisting with a verbal direction which reflects the modern numberless general form *you*.

The same holds for the other persons as in (52) and (52a) below:

52) YESTERDAY   (I$_1$)   THEY_TWO$_{LFT}$ $_1$SPEAK$_{LFT}$

    Yesterday   *I*   *them*-dual   *I /We-speak-them*

Yesterday I spoke to both of them / to those two (people, girls...)

52a) YESTERDAY   WE$_1$ THEY$_{LFT}$ $_1$SPEAK$_{LFT}$

    Yesterday   *We*   *them*-pl.   *I / We-speak-them*

Yesterday we spoke to (all of) them

Again the changes indicating plural, dual or singular are observed in pronouns, but not in the direction of the verb, that is, its startpoint is in PLACE-**1** both for 1st pers.singular and 1st pers.plural subjects/agents "*I / We*" while its endpoint is PLACE-**LFT** for both 3rd pers.dual and 3rd pers.plural objects/patients "*Them / Both of them*".

As already said, another resort is to show agreement through the overt realization of special deictic signs, the verbal indexes which behave like weak or clitic pronouns replacing the verbal inflection. This issue is dealt with in paragraph 2.5.

The complexity of the LIS verb inflection, however, is due also to other factors like TENSE and ASPECT marking (see 2.4.4) and object INCORPORATION (see 2.4.5) which leads to the creation of single signes with specific meanings like GLASS_DRINK (opposite to the general DRINK) or GLASS_GIVE and BOOK_GIVE (opposite to the general GIVE) in a way not too different from italian verbs such as *"ingabbiare = mettere-in-gabbia"* (engl. to put into a cage) or *"imprigionare = mettere-in-prigione"* (engl. to put somebody in prison, to jail) opposite to the simple verb "mettere" (engl. to put) and catalan verbs such as *"camatrencar = trencar una cama"* (engl. "to break a leg to somebody") or *"peucalcigar = calcigar amb el(s) peu(s)"* (engl. "to kick somebody with one's feet").

2.4.2 Classes: "phonological" and "syntactic" classifications

Like any other language LIS possesses different kinds of verbs which can be grouped in different categories such as *transitive, ditransitive, unergative, unaccusative* and so on or *one-argument verbs, two-argument verbs and also three-argument verbs*. Nevertheless it does not show any *passive* inflection for transitive verbs and it resorts to topicalization to give prominence to the object, although to a certain extent also the passive of oral languages can be seen as a way to give prominence to the object and in this respect it is not so different from the topicalization used in LIS.

Another classification of verbs can be made according to the phonological criteria already mentioned: verbs which are signed on/near the speaker's body thus being invariable (like THINK), verbs which are signed in the neuter space thus allowing overt agreement with all of their arguments (like PHONE) and verbs whose movement is partially restricted to one place (only the startpoint or only the endpoint, one of them being fixed on the signer's body) and whose agreement is consequently restricted to one argument (like SEE).

This leads to an apparent confusing situation. For example, from a syntactic point of view these are all transitive verbs (or at least two argument verbs) but the ways they agree with their object vary remarkably due to their phonology: THINK requires contact with the signer/speaker's body and therefore cannot overtly inflect without indexes or body tilting; PHONE moves from everywhere to everywhere and consequently agrees both with its subject and its object; SEE can move to everywhere but its startpoint is the eye of the signer so that the overt agreement with the subject is blocked and only the inflection* for the object is overtly realized.

Some verbs with partial inflection* can also appear in a two-argument configuration and agree with their superficial object (53), or appear in a one-argument configuration and agree with their superficial subject (53a).

Anyhow they always agree with the patient as already remarked by **Pizzuto (1987)** from whose work the following minimal pair has been drawn, with some slight change:

Inflection, here, is understood as an overt morphological marking on the verb

53) WE$_1$ PEN$_{LFT}$ BREAK$_{LFT}$ 53a) PEN$_{LFT}$ BREAK$_{LFT}$

We   *the pen*   *break-it*   *the pen*   *break-it*

We broke/break the pen   The pen breaks/broke

In English and Italian, on the contrary, the verbal inflexion is always triggered by the subject (be it patient or not): *We break the pen* vs. *The pen break**s*** ; *(Noi) Romp**iamo** la penna* vs. *la penna si romp**e***.

.

Indeed, although more data need be analyzed to reach sure conclusions, **the verbal agreement in LIS seems to be based on patient , agent and beneficiary**, rather than subject and objects: when the overt agreement is available for one argument then the verb agrees with the *patient*, if there are other arguments available then agreement with the *agent* takes place.

As a consequence, in both sentences (53a) and (53) the verb BREAK agrees with the patient PEN regardless of this θ-role being realized as superficial object in the former case and as superficial subject in the latter.

The same holds for the verb SEE which moves toward the location of the patient YOU while its startpoint remains unchanged, due to phonolgy, and does not agree with the subject MARCO, on the left side:

54) LAST_WEEK   MARCO$_{RGT}$ YOU(ALL)$_2$ SEE$_2$
Marco saw you last week

In other words the verb apparently agrees with its object both in (53) and (54) just because this corresponds to a patient. When the patient is a superficial subject (53a) then the verb agrees with this subject.

On the contrary, verbs with full inflection as PHONE, agree overtly also with the agent, which appears as the superficial subject.

Other verbs, then, although showing a full agreement, realize it in an apparent "reverse order" as their startpoint changes according to the superficial object while their endpoint changes according to the superficial subject like EXPLOIT / ABUSE / TAKE_ADVANTAGE_OF below.

55) WE₁   STUDENT   THOSE_RGT   _RGT TAKE_ADVANTAGE₁

    We   student-pl.   *those*   *them- take_advantage -we*

We take advantage of those/these/the students (or we abuse...)

This because in LIS the endpoint of the verb often marks the *beneficiary* as happens for example with the verb GIVE which moves toward the location of the *indirect object,* i.e. the person who receives the benefit of the gift. Recall that the direct object of GIVE is usually realized by means of incorporation, when possible, with no overt agreement.

Likewise, in (55) the sign TAKE_ADVANTAGE targets the location of the 1st person beneficiary (as it is "**we**" who enjoy the result of the action) starting from the location of the 3rd person patient as it is "the students" that undergo abusing or "advantage-taking".

There are also verbs whose direction agrees overtly with three arguments, like the verb TAKE sb. TO somewhere (usually glossed ACCOMPAGNARE in Italian) which in its inflexion encodes also the goal or locative object.

56) VENICE_RGT   ₁TAKE₂_^RGT

   (to) Venice   I-take-you-there

I (will) take you to Venice

In this case the verb TAKE normally starts from the location of 1st person subject "I *or* we" (PLACE-**1**) and goes to that of the 2nd person object YOU (PLACE-**2**), then moves further to a third point in the space recalling the locative complement VENICE (3rd person PLACE-**RGT**)

This verb especially exploits the visual resources of LIS spatial inflection when three 3rd person arguments require encoding on the verb:

57) MARCO_LFT   MIRCO_RGT   VENICE_RDG   _LFT TAKE_RGT_^RDG

   Marco   Mirco   (to) Venice   he-takes-him-there

Marco takes Mirco to Venice

The verb starts from the location referring to MARCO on the left side of the signer (PLACE-LFT), moves to the place matching MIRCO on the right side (PLACE-RGT) and goes on toward the point where VENICE was signed, in this case on the right diagonal of the signer (PLACE-RDG). Thus three different arguments of 3rd person (singular) can be referred to unambiguously at once by LIS verbal morphology.

Note once more, that arguments are correctly identified in LIS by verbal agreement regardless of their gender, while the English translations given in (57) above and (58,59) below are ambiguous in that they involve two "HEs" (he took him...).

The correct sense of these LIS sentences is much more like the pattern: «X... Y... *THAT* TAKES *THIS...*» (or *the former takes the latter*). However, this anaphoric use of oral languages does not correspond exactly to the LIS place-agreement so that the signs will be translated as usual pronouns *(he,she,him, it...)* whenever possible and the spatial deictics will only be used to translate the sentences clearly when no gender distinction can be made.

If the verb refers to three entities already mentioned in the discourse, the entire sentence can be collapsed into one sign without any overt pronominalization. So, speaking about *"taking Mirco to Venice, yesterday?"* one can say simply:

58) $_1$TAKE$_{RGT}$_^{RDG}
I took him there

or, given a question like *"Did Marco take Mirco to Venice, yesterday?"* the answer could be:

59) $_{LFT}$TAKE$_{RGT}$_^{1} $_1$TAKE$_{RGT}$_^{RDG}
He took him to me and then I took him there
That took this to me and then I took him there

provided that the locations involved in the verbal DIRECTION match the correct imaginary places corresponding to the three arguments, i.e. that MIRCO be signed on the speaker's right, VENICE be signed on his right diagonal and MARCO be signed on his left (because I am the speaker in the answer). What a concision!

Finally, there are verbs whose phonology impedes the overt syntetical realization of agreement through changes in the DIRECTION, i.e. the startingpoint and the endpoint. In such cases, these places must be realized as independent signs/morphemes. Compare THINK (60a) to PHONE (60):

60) $_{LFT}$PHONE$_2$ 60a) THAT/HE$_{LFT}$ THINK YOU$_2$ *(better: <ind>$_{LFT}$ THINK <ind>$_2$)*
He/She phones you   He/She/That thinks of you

There is some evidence that in the latter case (60a), the deictics glossed as HE/THAT/THIS, on the one hand and YOU on the other, are not pronouns or demonstratives but marks of agreement performed independently from the verb, for phonological reasons. Their movement is relaxed as in nominal indexes, more than in "normal" deictics such as demonstratives or pronouns.

In other words they would be "stand-alone" realizations of PLACE-**LFT** (3rd person) and PLACE-**2** (2nd person) positions which normally are incorporated into the verb. This will be dealt in paragraph 2.5.1 as the word order of the sentence *(SOV)* is considered.

2.4.3 Inteference between *pro-drop* , verbal class and phonology – Verb and deictics

From the sentences above (52, 56, 59, 60) it is clear that personal pronouns in LIS are not compulsory but can be dropped if they are recoverable from the verbal morphology or the context, i.e. LIS is basically a pro-drop language. Nevertheless, the phonology of verbs interferes with this fact as shown in (60a) above and (71, 71a, 72a) in 2.5.1 where the verbs THINK and DREAM require the overt realization of indexes to mark the agreement with their arguments. One might argue therefore, that the pro-drop parameter in LIS is depending on the verb: further research is needed on this issue. However it must be observed that the indexes required by such "uninflectable" verbs have a relaxed movement as the nominal indexes (see 1.2.2 , 2.1 and 2.4.2) and likewise they cannot exist as stand-alone signs, since they must always be performed near a verb or a noun: this parallels the behaviour of weak pronouns and clitics found in oral languages and would mean that these LIS signs work as weak pronouns or clitics or, at least, they somehow represent a "detached" verbal PLACE-feature of agreement appearing only when it cannot be realized directly on the verbal root itself due to phonologic reasons. (In this respect, in my opinion their behaviour could be similar to that of the English auxiliary *do/does* on which the inflection is overtly realized when, for different reasons, it cannot appear directly on the full verb).

On the other hand, the use of personal pronouns/demonstratives (I , THIS/THAT/(S)HE...) is always optional in LIS even with such "uninflectable" verbs as THINK , DREAM or LAUGH which strengthens the hypothesis that LIS *is* a pro-drop language.

What is evident is that verbs can be accompanied by different kind of deictics, just as nouns do. On the one hand there are independent pronouns which are the same as the demonstrative deictics used within the NP. On the other hand there are verbal indexes, deictics which cannot be employed as "stand-alone" signs and always need the support of a verbal root though they never merge into one sign: they are partially dealt with in the paragraph 2.5.1 although I fail to determine whether they work exactly as end-morphemes (it. *parl**a(no)** ,* engl. *...speaks*) or as clitics which coexist with an ending (fr. ***il/ils** parl**e**(nt)* , ven. ***el/i** parl**a***).

In my opinion, this issue calls for further research.

2.4.4 Tense and aspect

As for TENSE, the comparison among (51, 51a) on one hand and (52, 52a) on the other shows that the verbal morphology does not overtly mark this feature whose realization relies on analytical devices like the adverbs of time TOMORROW and YESTERDAY. LIS possesses a wide set of signs to mean "later, early, soon, just now, for a long/short time, next/last week..." and numeral incorporating signs to convey the idea of "two/three/five months ago, in two/three/four days, for one/two/three years" besides constructions meaning "for six/seven/twenty hours, ten/twelve years later" and so on.

Still, the verbal morphology of LIS marks ASPECT, carefully distinguishing perfective/iterative/distributive forms through changes in the MOVEMENT. For example perfective is obtained adding to the verb a special sign meaning DONE which often merges with the verb itself ; the iterative is marked by repetitions of the movement and distributive by repeating the movement in different directions, i.e. combining repetition with changes in direction.

The reciprocal form has a special construction, as said in 1.2.1 (see example (5)) consisting of signing two verbs with the same meaning, each of them agreeing on its own with the arguments in opposite directions, but both agreeing in TIME OF ARTICULATION with each other. In other words the reciprocal form of LIS verbs often requires co-articulation: one and the same verb is articulated by each hand at the same time.

Recall the example (5) and look at (61) below:

61) WE$_1$ THEY$_{RGT}$ $_{RGT}$PHONE$_1$
                                               $_1$PHONE$_{RGT}$

  We   *they*   *we-call-them*
                                                 they-call-us
We and they call each other

In this sentence there are two signs translating the English verb "phone" and each of them moves in a different direction, so the argument being subject of one verb also works as object of the other and the object of the latter is also the subject of the former: this conveys the sense of reciprocity.

Recall that, though the pronoun WE is marked for plural, it is given PLACE-**1** as it consists of a line drawn with the forefinger passing through the signer's location and this allows the verbs to agree in person (i.e. place) with the pronoun, because they move to and from the location of the 1st person, even if they do not show any marks for plural. The same holds for the pronoun THEY.

As for PERFECTIVE, this is a feature normally well marked in slavic languages though sometimes it is found even in english or italian. In LIS the perfective aspect is expressed by means of the sign DONE added to the verb, so that (62a) is the perfective counterpart of (62):

62) YESTERDAY   TV$_{LFT}$ (I) LOOK-AT$_{LFT}$ FATHER$_{RGT}$ $_{RGT}$COME$_1$

  Yesterday   (the)television   (I) watch(ing)-it   (my) father   he-came-to me

Yesterday I were watching TV (and) my father came

Yesterday, as I were watching TV, my father came

62a) YESTERDAY   TV$_{LFT}$ (I) LOOK-AT$_{LFT}$ DONE   FATHER$_{RGT}$ $_{RGT}$COME$_1$

  Yesterday   (the)television   (I) watching-it-finished   (my) father   he-came-to me

Yesterday I watched TV (and then) my father came

Yesterday, after I (had) watched TV, my father came

This sign can be used with any tense, be it past, present or future:

63)TOMORROW   EAT DONE   (WE_TWO$_2$) $_1$COME$_2$
                   $_2$COME$_1$

  Tomorrow   eating-finished   we-two-dl.-inclus.   *I-come-to you*
                        you-come-to me

Tomorrow after eating (having eaten), we two will meet   *(we two = I and you)*

The action of *"eating"* is marked as completed at the moment in which I and my listener will meet, what conveys the meaning that "*first we two eat* (every one on its own) *and then we two meet"*.

Recall that the dual pronoun WE_TWO₂ is inclusive as it moves to and from the location related to 2nd person, so that it indicates the inclusion of the listener meaning roughly «I and you».

Again, the verbs do not mark number despite marking the person. Despite not marking the number overtly, the verbs show a special inflection for the plural DISTRIBUTIVE, that is a plural in which the same action is directed to (or performed by) different arguments individually and not as a whole group. For example one can say *«I phoned them»* or one can say *«I phoned **each of** them»*. In the following sentences it will be clear that LIS verbs, though not marking plural usually, can mark the plural involving DISTRIBUTIVENESS.

The verb in (64) below is repeated different times and, although moving toward the left side of the speaker where previously he signed the NP "those students", it changes slightly its direction targeting different imaginary points (**x,y,z**) located near that place as if the verb referred to the 3rd person argument (the students) which was given PLACE-LFT , but each time agreeing with a specific individual of that group of people. It is as if there were different single actions of "phoning" all involving the group of students given PLACE-**LFT** (and no others), but each of them directed to one specific student of those: student-x, student-y, student-z... This is the core of distributivity.

64) Y... (I₁)   STUDENT   THOSE_LFT   ₁PHONE_LFT-X   ₁PHONE_LFT-Y   ₁PHONE_LFT-Z

 Y...   I   students   those   I phone-one_X   I-phone-one_Y   I-phone-one_Z

 of them_LFT   of them_LFT   of them_LFT

Yesterday I phoned each of those students

(i.e. phoned one, another and another of that group of students...)

The verb agrees in place with each single student (x,y,z), but the "left-side" provides a sort of agreement with the partitive (each *of those students* who had been previously signed at the speaker's left, not other groups who can be given other locations.)

On the contrary, in (64a) the verb agrees with the whole group at once.

64a) YESTERDAY   (I₁)   STUDENT   THOSE_LFT   ₁PHONE_LFT

 Yesterday   I   students   those   I-phone-them

Yesterday I phoned those students (e.g. I made one call to the whole group)

Note that in both (64) and (64a) the verb PHONE encoding even the subject allows the subject personal pronoun to be dropped so that the sign "I" is optional: indeed the verb of the sentence starts form PLACE-**1** so that a 1st person singular is understood unless the context induces plural interpretations and requires the overt realization of a specific sign to make it clear that a singular form is wanted.

Also ITERATIVITY requires the repetition of the movement of the verb but no changes in the direction are observed, i.e. it is not seen as split into different single actions directed to different individuals. Take the sentence *"Yesterday I phoned those students a lot of times* (but nobody answered)*"* which can also be rendered as *"I phoned, phoned and phoned* (but I got no answer)*"*.

Now compare the (64) and (64a) above with (64b) below:

64b) Y... (I₁)   STUDENT   THOSE_LFT   ₁PHONE_LFT   ₁PHONE_LFT   ₁PHONE_LFT
    Y...   *I*   *students*   *those*   *I-phone-them*   *I-phone-them*   *I-phone-them*
Yesterday I phoned them a lot of/many/different/some times
(i.e. I keep trying to phone that group of students...)
(I made different calls to the same group)

In this case the verb PHONE, although repeated, moves to one and the very same point located at the left-side of the signer because no different individuals are involved in the action but the group as a whole, instead, receives different calls, e.g. in the telephone of the house were the students are living together.

2.4.5 Verb and Incorporation

As for INCORPORATION, it is realized on some verbs and serves as a form of agreement: it is expressed through changes in the configuration as seen in 1.2.1 and 2.2.2 while movement and direction generally retain the form of the base verb. Accordingly the English sentence *"I drink from the glass"* and its Italian counterpart *"Bevo dal / con il bicchiere"* are translated with a single verb GLASS_DRINK in LIS, whose direction is toward the mouth of the signer like the simple form DRINK but whose shape is the same as the noun GLASS (config. C)

Likewise, the sentence *"We gave you a book"* (65) uses a single verb moving from place-1 to place-2 whose shape is the same as the noun BOOK: we could say that the result is the noun BOOK moving in the air according to the direction of the verb I-GIVE-YOU

65) PREVIOUSLY   WE$_1$ YOU_ALL$_2$ (BOOK) $_1$BOOK_GIVE$_2$

    In the past   *We*   *you*-pl.   *(a book)*   *we give you book*

We gave you a book

The verb agrees in PLACE with the 1st person subject and the 2nd person indirect object/beneficiary (both represented by plural pronouns) but has the configuration of the noun BOOK i.e. the verb GIVE undergoes the same changes as the noun MONTH seen in 1.2.1 or pronouns when they merge with a numeral assuming its configuration.

Also in the Italian sentences *"Guida la macchina"* (He drives his car) and *"Guida la moto"* (He drives his motorbike) we are concerned with a verb which requires an object. In (66) and (67) we will see that the LIS translations incorporate the shape of the object (WHEEL of CAR or HANDLEBAR of MOTORBIKE) into the alternated movement of the arms representing the uninflectable verb (DRIVE):

66) HE/THAT   WHEEL_DRIVE

    He   *drives (the wheel of) the car*

67) HE/THAT   HANDLEBAR_DRIVE

    He   *drives (the handlebar of) the motorbike*

Object incorporation, like classifiers, thus provides LIS with another important device for verbal agreement besides the use of PLACE and DIRECTION. Still, the availability of this resort is restricted by the phonology of the signs involved in the sentence.

2.5 The sentence

Deaf who employ LIS as native language reveal a word order quite different from that of oral Italian and that of *"italiano segnato"* (=signed Italian) which reproduces the grammar of Italian, even by means of special auxiliary signs representing every single morphologic mark of oral Italian. Of course, LIS word order despite being different from that of other languages, shows a certain flexibility which reflects the different emphasis given to the elements of the discourse and also involving such labels as *topic, focus* and so on. These will be especially dealt with in the paragraphs related to relative clauses. The presence or absence of overt agreement between the verb and its arguments also interferes with the flexibility in the word order, in the same way as does case inflection in oral languages.

2.5.1 Word order is SOV - Pronouns and verbal indexes

The word order in a LIS plain sentence is Subject Object(s) Verb, like the one we are concerned with in German subordinate clauses and like the word order found in Basque plain sentences. This parallels the behaviour of other phrases of LIS, since adjectives follow nouns , determiners or deictics follow the entire NP with its attributive adjectives and in PPs we often found a postposition following the noun rather than the preposition preceding it.

Recalling the sentences (53) or (57) , repeated below as (68,69) provides sufficient examples:

68) WE₁   PEN$_{LFT}$ BREAK$_{LFT}$

    We   the pen   break-it

We broke/break the pen

69) MARCO$_{LFT}$ MIRCO$_{RGT}$ VENICE$_{RDG}$ $_{LFT}$TAKE$_{RGT}$__^{RDG}

    Marco   Mirco   (to) Venice   that-takes-this-there

Marco takes Mirco to Venice. (note: "he takes him there" would be an ambiguous glossa)

If there are adverbs or time expressions, they must be fronted:

70) NEXT_WEEK   MARCO$_{LFT}$ MIRCO$_{RGT}$ VENICE$_{RDG}$ $_{LFT}$TAKE$_{RGT}$__^{RDG}

    Next week   Marco   Mirco   (to) Venice   that-takes-this-there

Marco will take/is taking Mirco to Venice, next week

In case of those verbs which remain unchanged (i.e. do not agree in direction with their arguments) and require analitical inflection like THINK or DREAM, the marks of agreement must be realized as independent signs roughly represented as "he/she" sometimes, but whose movement is relaxed as in nominal indexes (see 2.1) and not accompanied by any special facial expression. Look at (71) and recall (60a) repeated here as (71a):

71) HE_{LFT}   DREAM   YOU₂   *(better: <ind>_{LFT}   DREAM   <ind>₂)*
He/She dreams about you

71a) HE_{LFT}   THINK   YOU₂   *(better: <ind>_{LFT}   THINK   <ind>₂)*
He/She thinks of you

In (71) and (71a) the word order appears to be SVO, contradicting the general rule, still a deeper analysis reveals that these deictics are not pronouns but agreement morphemes realized as independent signs, i.e. they only *resemble* pronouns. Compare the word order of (72) and that of (72a) below, both with 3rd person arguments:

72) FATHER_{LFT}   CHILD_{RGT}   _{LFT}PHONE_{RGT}
     S   **O**   (AGR) **V** (AGR)
    (the) father   (the) child   that-phones-this
The father phones his/the child   ("he-phones-him" would be an ambiguous gloss)

72a) FATHER_{LFT}   CHILD_{RGT}   *<ind>*_{LFT} THINK *<ind>*_{RGT}
      S   **O**   (AGR) **V** (AGR)
     (the) father   (the) child   that - think - this
The father thinks of his/the child

It is clear that in both sentences the subject (FATHER) and the object (CHILD) are signed before the verbs (THINK/PHONE) thus following the same *SOV* pattern.

Therefore, the apparent SVO order in (72a) is restricted to the verbal complex (THAT-THINK-THIS) and is due to the fact that the indexes *resemble* independent pronouns.

It parallels the order of realization of the agreement-marks *subject=startingpoint—verb—object=endingpoint* found in (72) , the only difference being that in this latter case the places are incorporated into the verb through changes in its DIRECTION, while in the former they are realized as independent signs, i.e. verbal indexes.

This is especially observed when such uninflectable verbs must build their reciprocal form:

72b) FATHER$_{LFT}$ CHILD$_{RGT}$ $<$ind$>_{LFT}$ THINK $<$ind$>_{RGT}$ $<$ind$>_{RGT}$ THINK $<$ind$>_{LFT}$

   (the) father   (the child)   he/that – think – him/this   he/this – think – him/that

The father and his/the child think of each other

The word order remains unchanged even in imperatives and Y/N questions as will be seen later. WH- questions, on the contrary, require the interrogatives to be spelled out at the end of the sentence, while in italian their fronting is required instead.

Anyhow other resources are employed in LIS to mark interrogative questions as well as imperatives and subordinate clauses. These issues will be dealt with in the next paragraphs.

Another important reason of word order change in LIS is topicalization which leads to sequences like **O$_{[break]}$ S V** : in this case however the fronted element is followed by a break (Laudanna, 1987) and according to my data it is also marked by a specific *facial expression.* This non-manual component , explained in 2.5.8, is also displayed in sentences with topicalized subjects **S$_{[break]}$ O V** which will be taken into account in the paragraph concerning relative clauses.

2.5.2 Negation and negative modals

Before turning our attention to more complex constructions, some discussion is necessary about the way *negation* is realized in LIS. ***Negation always follows the verb,*** so that in a plain negated sentence it is ***sentence final.*** A distinction is made between the verbal negation NOT and the "stand alone" sign NO! used in simple answers, e.g. *"would you like some cake? NO (I don't)"*. The former sign has a repeated, relaxed movement while the latter has a tense, non-repeated movement. Also "refusal" head movement and facial expression are involved in this process.

verbal neg. NOT   "stand-alone" neg. NO!

Compare the negative (73) and (74) below to their affirmative counterparts described in the previous paragraphs.

73) WE₁   PEN_LFT   BREAK_LFT   NOT
    We   the pen   break-it   not
We don't / didn't break the pen

74) NEXT_WEEK   MARCO_LFT   MIRCO_RGT   VENICE_RDG   _LFT_TAKE_RGT_ ^RDG   NOT
    Next week   Marco   Mirco   (to) Venice   he-takes-him-there not
Marco will not take / is not taking Mirco to Venice, next week

It is worth noting that some modals have a special negative form incorporating the negation into the verbal sign. That is, the verbs WANT / LIKE and CAN / BE POSSIBLE do not express negation through construction such as *like not* or *can/possible not* but resort to forms such as DISLIKE and BE IMPOSSIBLE. In the latter case other special negative forms exist expressing the ideas of *"was/were NOT ABLE to (but it was possible)"* and *"I DID NOT even TRY because I CONSIDER that it is/was IMPOSSIBLE"*.

In such constructions the negative verb is sentence final as in normal SOV sentences and no negative sign is found after it. The "refusal" facial expression is always present and in the minimal pair WANT (like) / DON'T WANT (dislike) it is the only negation mark, whereas in the other cases it is supplementary.

75) CINEMA_{LFT}   ₁GO_{LFT} LIKE/WANT

 (to the) cinema I-go-there want (or like)

I want (would like) to go to the cinema

76) CINEMA_{LFT}   ₁GO_{LFT} DISLIKE

 (to the) cinema I-go-there don't want

I don't want to go to the cinema

Also the verb used to expressing existence or possess displays a special negative form.

77) I₁ JACKET EXIST / THERE IS

 (to) me (a) Jacket there is

There is a jacket to me

I have a jacket

77a) I₁ JACKET EXIST_NOT / THERE_ISN'T

 (to) me (a) Jacket there is not

There isn't any jacket to me

I don't have any jacket / I haven't got any jacket

Modals like *must/have to,* on the contrary, follow the regular pattern and take a negative sign to build their negative forms *must not / have not.*

2.5.3 Yes/No questions

As said before, there are neither auxiliaries nor changes in the word order to mark interrogative sentences in LIS, but simply an *interrogative facial expression is required* just as Italian or Spanish rely on interrogative intonation instead of using any visible morphosyntactic marks to express questions. Indeed, the facial expressions of sign languages often hold the same functions performed by voice intonation in oral languages.

In LIS the interrogative expression (head-bent and eyebrows high, *Franchi 1987*) is a non manual component which spreads over the entire sentence, starting with the first sign and ending on the last one as in (78) below.

-------------interrog. Y/N expression--------------------------   -------------interrog. Y/N expression--------------

78) $CINEMA_{LFT}$ $_2GO_{LFT}$ (YOU_2) *or* (YOU_2) $CINEMA_{LFT}$ $_2GO_{LFT}$
    ¿(to the) cinema   you-go-there?
Do/Did/Will you go to the cinema?

--------------------------------------- interrogative Y/N expression ---------------------------------

79) $MARCO_{LFT}$ $MIRCO_{RGT}$ $VENICE_{RDG}$ $_{LFT}TAKE_{RGT\_}{}^{RDG}$

    ¿Marco   Mirco   (to) Venice   he takes him there?
Does/Did/Will Marco take Mirco to Venice? Is Marco taking...?

---interrog. Y/N expression--------------------------------------

80) TOMORROW $_2PHONE_1$ CAN / POSSIBLE (YOU_2)
    ¿Tomorrow   you phone me   can (could)?
Can/Could you phone me tomorrow?

The answers to this kind of questions can be (and indeed are) simply YES or NO without any tag. Negative questions simply add the negative sign or negative modal at the end of the interrogative sentence, i.e. the interrogative expression and the negative construction merge.

Note also the possible presence of an optional sign YOU at the end (but also at the beginning) of the clause, depending on the context.

2.5.4 Wh- questions

In LIS, *wh*-questions **have a special "wh- facial expression"** (knitted brows) **and a sentence-final interrogative**: WHO, WHAT/WHEN, WHICH/WHAT OF, WHERE, WHY, HOW, HOW MUCH/MANY. This expressions spreads over the whole sentence. Here too, note the possible presence of an optional (YOU) in different positions as exemplified in (81,81a) and (83)

--------------------------- interrog. WH- expression ---------------------------

81) CINEMA_{LFT}   (YOU₂)   ₂GO_{LFT}   WHEN
    ¿ (to the) cinema   (you)   you-go-there   when?
When do/did/will you go to the cinema?

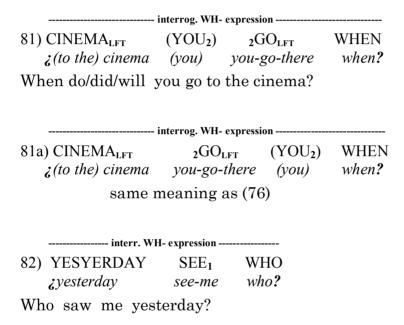--------------------------- interrog. WH- expression ---------------------------

81a) CINEMA_{LFT}   ₂GO_{LFT}   (YOU₂)   WHEN
    ¿ (to the) cinema   you-go-there   (you)   when?
          same meaning as (76)

---------------- interr. WH- expression ----------------

82) YESYERDAY   SEE₁   WHO
    ¿yesterday   see-me   who?
Who saw me yesterday?

There is no difference if the *wh*-sign represents an object (83) or a subject (82): it is always the last sign in the sentence. The *wh*- can be signed looking toward a specific PLACE so that the verbal agreement can provide overt marking of the roles: despite the gloss "him", the sentence (78) is the same for masculine, feminine and neuter arguments.

--------------------------- interr. WH- expression ----------------------

83) (YOU₂)   ₂SPEAK_{LFT}   WHO_(LFT)
  ¿ (you)   you-speak-him(left)   *who*-3sg.(left)*?*
Who do/did you speak to?
To whom do/did you speak?

The fact that WHO can be inflected for PLACE is proven by the fact that conflicts of place can arise and lead to agrammaticality as in (83a) below where the *wh*- tries to question a known referent (the subject Marco) agreeing with it (+RGT) instead of questioning the object (+LFT).

----------------------------- interr. WH- expression --------------------------------------

83a) MARCO_{RGT}   _{RGT}SPEAK_{LFT}   *WHO_{RGT}
¿ *Marco* (right)   *that-speak-him*(left)   *who*-3sg.(right)*?*
*To who *(nom.)* does Marco *(nom.)* speak?

As both MARCO and WHO agree with the startpoint of the verb, this should have two arguments acting as subjects (MARCO and WHO) which is not possible.

Thus, the sentence (83a) would sound as «*Who-Marco speaks to him?» which is a nonsense. If the sign WHO had been [+LFT] it would have agreed with the verbal object generating a well-formed sentence «To whom (acc.) does Marco (nom.) speak? ... Who does Marco speak to?»

Other interrogative clauses are:

------- interr. WH- expression -----

84) _{RGT}SAY_{LFT}   WHAT
¿*he say him*   *what?*
What do/did/will he say to him?
What do/did/will she say to her?...

---------- interr. WH- expression ----------

85) NAME   YOU   WHICH
¿*name*   *your*   *(is) which/ what?*
What('s) your name?

--------------------------- interr. WH- expression ----------------------------

86) (YOU)   THOSE_{RGT}   WANT   WHICH?
¿*(you)*   *(of) those*   *(you) like*   *which/what?*
Which/What do you prefer (of them)?

The verb WANT/LIKE has no overt inflection in LIS, still the 2nd person subject is recoverable from the context and from the fact that the signer looks toward the listener with interrogative (*wh-*) expression. It is something like the colloquial english form *"(are you) coming to the cinema tonight?"*

LIS, like Italian or French, does not distinguish "which of two" and "what of many"; it distinguishes a subj/direct object interrogative WHAT (it. *che cosa?* , fr. *quoi?*) as in (84) and a selective interrogative WHICH/WHAT OF (it. *quale?* , fr. *quel?*) employed to choose among two or more entities like in (86) above.

More *wh-* pronoun in LIS are shown in (87) and (88) below:

------------------------- **interr. WH- expression** -------------------------
87) WE**₁**   LINGUISTICS   STUDY   WHY?

Why are we studying linguistics? Why have we studied...?

---------- **interr. WH- expression** ---------
88)   **₁**SIGN**₂**   HOW
   ¿I-sign-you   ***how?***

How do/did I sign (="speak in LIS") to you?

As seen in these sentences, not all *wh-* pronouns require a specific place in LIS

2.5.5 Imperatives

Imperatives in LIS maintain the (S)OV word order but *are marked by a special "exclamative" non-manual component* (eyes wide open). Like in most languages the 2nd person independent subject pronoun is dropped, compare (89) and (90) below with their interrogative counterparts:

-----imperative exclam. expression------
89) CINEMA_{LFT}   ₂GO_{LFT}
    ¡(to the) cinema   you-go-there!
Go to the cinema!

--------imperative exclam. expression-------
90) TOMORROW   ₂PHONE₁
    ¡Tomorrow   you-phone-me!
Phone me tomorrow!

The negative imperative is built by simply adding the negation at the end of the sentence, as always:

--------imp. expr.------
91) CRY   NOT
    ¡cry   not!
Don't (you) cry!

Some verb has a special imperative, different from its base or general form displayed in other contexts. Compare the base of the verb COME used in the interrogative sentence (92) and the imperative form COME (HERE)! employed in (92a). Both move from place-2 to place-1 but their SHAPES/CONFIGURATIONS are quite different.

---------interrog. Y/N expression--------	--------imperat. expression --------
92) TOMORROW ₂COME₁	92a) ₂COME-IMPERATIVE₁
Do you come to me/my home tomorrow?	Come! Come here!

COME base/general form (to be inflected)   COME-here! (imperative only)

2.5.6 Classifiers

One important feature of LIS and signed languages in general, is the use of the so-called *classifiers* which are found even in oral languages such as chinese. They are special words (or signs) used to mark agreement between some elements of the sentence. They do not identify one object, but a class of objects according to one or more properties shared by them: generally their shape or the way they must be caught or picked up. For example there are classifiers referring to *flat surfaces (e.g. a mirror) , thin objects (e.g. pens, threads...) , round objects (e.g. a ball) , people , animals with four legs (cats, dogs...) , trees , rectangular surfaces (e.g. tables, beds) , "standing" beings/objects , "lying" beings/objects* and so on...

In LIS, they are especially used in locative sentences but appear even in other constructions as (3) in parapgraph 1.2. A classic example of locative statement *(Laudanna , 1987)* is the following:

93) BALL$_{LFT}$ TABLE$_{RGT}$ ROUND-OBJECT-*class.*$_{RGT}$ (above)
                                    RECTANGULAR-SURFACE-*class.*$_{RGT}$ (under)
   the ball   the table   round thing–(is) on–rectangular thing
The ball is on the table

Remember first of all that the verb *to be* is not overtly realized in LIS. The two classifiers are realized each one by one hand in the same PLACE (on the right) but one above the other, thus conveying the idea of the preposition "(UP)ON". Each of them agrees with one specific argument of the sentence according to the properties of the object referred to: the "rectangular classifier" identifies the table, and the "round classifier" identifies the ball. As the round one is above the rectangular one, it is clear that the ball is on the table. On the contrary, signing the round classifier under the rectangular one would convey the idea that the ball is under the table.

If the classifier for round object is moved toward the other, then the idea of "PUTTING, LAYING" is conveyed. In (94) the classifiers representing the ball moves from its original PLACE-**LFT** location toward the PLACE-**RGT** of the other object, though staying above it.

94) BALL$_{LFT}$ TABLE$_{RGT}$ $_{LFT}$ROUND-OBJECT-*class.*$_{RGT}$ (above)
                                    RECTANGULAR-SURFACE-*class.*$_{RGT}$ (under)
   the ball   the table   round thing–move on–rectangular thing
(I) put the ball on the table

With regard to locative sentences, the most frequent word order in LIS is locative **O**bject - located **S**ubject - **L**ocative relation/verb (according to *Laudanna, 1987)* even if the use of classifiers allows a wider range of combinations. It seems however that this order may involve some topicalization (see paragraph 2.5.8) because the order of (93, 94) was deemed as more "normal" in a non-marked situations. I leave this question for further research.

Anyhow, LIS classifiers also appear in non-locative sentences like (3), repeated here as (95):

95) CHILD_{RGT}   THREAD_{LFT}   THREAD-LIKE-THING -*classifier*_{LFT}
                             CUT-WITH-SCISSORS_{LFT}
   the boy   *the thread*   *thread-cut-with-scissors*
The child cuts the thread with the scissors

Here, the verb CUT-WITH-SCISSORS is signed in the same PLACE (but also at the same TIME) as the classifier and therefore agrees with it. The classifier, in turn, refers to the object THREAD recalling it long and thin shape so that this agrees indirectly with the verb.

Classifiers also come into play to describe the state of the entities concerned with the sentence, e.g. if they are "standing/laying/one in front the other" and so on... Thus the english sentence *"There is a man on the bridge"* can be rendered in different ways in LIS: see (96) and (97).

96) MAN_{LFT}   BRIDGE_{RGT}   STANDING-TWOFOOTED-ANIM.-BEEING-*class.*_{RGT}   (above)
                                  BRIDGE-*class.*_{RGT}   (under)
   the man   *the bridge*   *biped–(is) standing on–bridge*
There is a man (standing) on the bridge

Alternatively, a classifier representing lying people can be used therefore conveying the idea of "there is a man (lying) on the bridge" :

97) MAN_{LFT}   BRIDGE_{RGT}   LYING-ANIM.-BEEING-*class.*_{RGT}   (above)
                                  BRIDGE-*class.*_{RGT}   (under)
   the man   *the bridge*   *biped–(is) lying on–bridge*
There is a man (lying) on the bridge

2.5.7 Some subordinate clauses

The LIS speech is not a mere juxtaposition of main clauses whose relation must be inferred from the context or the world knowledge: despite the lack of many conjunctions and overt complementizers, a rapid overview will show the presence of many subordinate clauses like *causal, conditional* and *time* ones.

In the former case a conjunction meaning WHY/BECAUSE links the main clause with the subordinate causal clause. So, the answer to (87) could be (98):

98) WE (LINGUISTIC) STUDY BECAUSE (WE) LIKE

We (are) Studying (linguistic) because (we) like (it)

We study linguistic because (we) like (it)

Note that, though the verb LIKE is not overt inflected, the subject (WE) can be dropped if the context provides enough information, proving that LIS is basically a pro-drop language. Likewise, the object too (IT) can be dropped if it is understood.

As for time clauses, some distinction need be made: (99) requires the sign WHILE/DURING/IN THE MOMENT, whereas (99a) simply relies on verbal aspect. Both must be fronted, however, as do time adverbials.

(99) WHILE (YOU) $_2$COME$_1$ FATHER$_{LFT}$ $_{LFT}$PHONE$_2$

While/AS you were coming to me, my father phoned you.

(99a) (YOU) $_2$COME$_1$-DONE   FATHER$_{LFT}$ $_{LFT}$PHONE$_2$

　　　You   having come to me, (my) father   he-phoned-you

After you came to me, my father phoned you

My father phone you, after you came to me

This shows that LIS does possess subordinate clauses, though they are not always overtly marked lexically, an observation important to take into account in approaching to relative clauses.

As for conditional clauses, they are usually marked by a *special conditional facial expression* (bent head, eyebrows raised and eyes gathering up like when doubtful) and they must always be fronted.

The following example is taken from Franchi *(1987)*

    ---- cond. expr. -----
100) RAIN   (I)   CINEMA$_{RGT}$ $_1$GO$_{RGT}$ NOT
       if (it) rains   *(I)*   *(to the) cinema*   *I-go-there*   *not*

If it rains I won't go to the cinema

The conditional facial expression spreads over the whole conditional clause as in the example below:

      ---------- conditional facial expression ------------
101) (YOU$_2$) $_2$EXPLAIN$_1$ NOT   (I$_1$)   UNDERSTAND   IMPOSSIBLE
      if (thou)   *you-explain-me*   *not*   *(I)*   *understand (it)*   *cannot*

If you don't explain (it/this) to me , I can not understand (it)

Optionally also an overt sign IF can be employed to make the sentence clearer.

Anyhow, inverting the conditional and the matrix clauses results in ungrammaticality, according to the judgment of my informants.

2.5.8 Word order and topicalization

The SOV word order of LIS plain sentences can change when the so-called topicalization takes place. This phenomenon found also in oral languages occurs when one argument of the sentence is considered as "already given", i.e. it has been previously introduced in the speech and it does not constitute new information. The English sentence *"Yesterday I read a book"* is a plain sentence while *"The/That book, I read it yesterday"* implies that someone has already introduced the book and now it is the topic of my speech: what is really new, in the latter sentence, is only the fact that I read it yesterday, because the book itself had been spoken about previously.

Compare the plain sentence (102) to (102a) where the object is topicalized and therefore fronted before the sentence-initial time adverb. The topicalized object bears a special *topic facial expression* (raised eyebrows):

102) YESTERDAY   I$_1$ BOOK$_{RGT}$ READ$_{RGT}$

               S   **O**   **V** (AGR)

Yesterday I read a/the book

       ------ **brows raised** -------

102a) BOOK THAT$_{LFT}$ [break]   YESTERDAY   I$_1$ READ$_{LFT}$

          O   **S**   **V** (AGR)

That book , I read it yesterday

The same phenomenon occurs with subjects, although in this case the word order apparently remains unchanged because the subject usually precedes both the object and the verb in LIS sentences, so that after fronting it keeps preceding them and the words still appear in SOV sequence. However the same break follows the topicalized subject as it does with topicalized objects and the subject too bears the *topic facial expression.* An optional resumptive pronoun can appear after the break.

103) FATHER$_{LFT}$ CHILD$_{RGT}$ $_{LFT}$PHONE$_{RGT}$

           S   **O**   (AGR) **V** (AGR)

The father phones his/the child

     --- **brows raised** ---   (--- **brows raised** ---)

103a) FATHER$_{LFT}$ [break]   (HE/THAT$_{LFT}$)   CHILD$_{RGT}$ $_{LFT}$PHONE$_{RGT}$ -DONE

          S   **O**   (AGR) **V** (AGR) - *asp.perf.*

(As for) The father, he has already phoned his child   (*or* has finished phoning him)

3 Relative clauses in LIS

The aim of this chapter (originally the aim of the whole work) is to analyze some kinds of relative clauses in LIS: namely, while Zucchi, Cecchetto and Geraci (2004) dealt with the presence of correlative clauses, the purpose of the next paragraphs is to investigate the restrictive clauses of this language. This however implies, to a certain extent, also a comparison with some non-restrictive clauses in order to emphasize the strategies and the phenomena specific of restrictiveness.

3.1 Head external relative clauses

There is some evidence, in the data collected from my informants, that LIS possesses external headed relative clauses. Although in these clauses there is some variation in the use of deictics and pronouns maybe depending on the variety used by the signer, the relativized head noun displays an external-head behaviour.

Recall that non-manual components must be accurately taken into account since LIS, like other languages, often relies on them to mark structures which apparently have no special morpho-syntactic features different from those of a plain main clause.

Look at (104) below, containing an appositive relative clause which is marked by a *"parenthetical" relative facial expression* (eyes wide open, raised brows, head slightly bent forward). The appositive reading is forced by the presence of a proper name: indeed the subject of the main clause (he who is the best student) is unambiguously identified as MARCO by the name itself, so that the content of the relative clause is simply additional information. Therefore (104) translates the Italian sentence: *"Marco, con cui parlavo ieri, è il mio alunno migliore"* (=Mark, whom I spoke to yesterday, is my/the best student):

$$\text{--------------- \textbf{parenthetical expression} --------------}$$

104)MARCO$_\text{MID}$ YESTERDAY I$_1$ HE$_\text{MID}$ $_1$SIGN$_\text{MID}$ THAT-THAT$_\text{MID}$ STUDENT GOOD FIRST

$$<ind.>_\text{MID}$$

Marco, to whom I signed (=spoke in LIS) yesterday, _he_ is the best student

There is no overt complementizer introducing the relative clause in (104), but the parenthetical expression spreads over the piece of sentence YESTERDAY...SIGN, whereas the name MARCO retains the same neutral expression displayed in the main clause (*THAT STUDENT GOOD FIRST...*) what means that the proper name is an external head and is not part of this relative clause. Note also the presence of an emphatic deictic (cfr. sentence (23) in paragraph 2.1.2) consisting of the co-articulation of an index *<ind.>* and the repeated form THAT-THAT referring to the head noun: indeed this is spelled M-A-R-C-O in front of the signer, i.e. it has PLACE-**MID**. This, however, is a matter of secondary importance to the purpose of this analysis.

What has to be stressed here is that after the relative clause, the neutral expression again marks the following words, thus connecting them to the head-noun MARCO somehow and rendering the whole as main clause (Marco [is] the best student). On the contrary, the relative clause is marked as separated item by a parenthetical expression. Moreover, the time adverb which usually occurs sentence-initially appears after the head-noun, thus providing more evidence that the latter is outside the relative clause YESTERDAY...SIGN. The parenthetical expression, also, was displayed when my LIS informant was requested to translate into LIS an italian sentence containing an appositive clause between parenthesis: *«Le città inglesi (che sono molto belle) sono tutte molto costose»* (=English cities (which are very beautiful) are all very expensive). In LIS it was rendered as (105) the only difference being that the head-noun CITY-CITY is inflected for PLACE, in addition to number, and does not require any <index> to mark it analytically:

```
                                    ------------ parenthetical expression ------------
105) CITY-CITY_LFT  ENGLAND  ITS_LFT   THOSE_LFT  VERY-BEAUTIFUL   THOSE_LFT ...
       cities        english   poss.     they [are]  very beautiful     they

... COST      HIGH VERY-MUCH
cost/price         very high
```

With respect to the sign glossed as ITS, the informant stated it is a non-emphatic possessive pronoun (see the sentence (48) in 2.3.1), i.e. it is overtly marked for genitive and relates the noun CITY-CITY to ENGLAND conveying the idea of "cities of England, English cities". More work is needed, however, to reach sure conclusions about this issue.

Note, then, that some non-manual components are displayed even on some sign of the main clause but their role is to mark or help marking the superlative grade of the adjectives (synthetically e.g. VERY-BEAUTIFUL or analytically, with an adverb following the plain form e.g. HIGH VERY-MUCH): as for this recall what said in 2.1.2.

If a time adverb follows the head-noun (106), there is clearer evidence that this is external to the relative clause since time adverbs mark the beginning of clauses and sentences in LIS:

```
------------------------------------ eyebrows raised ------------------------------------
                    --------------------- "smiling" expression ---------------------
106) BOOK  THAT_LFT   YESTERDAY  FATHER_RGT    RDGBUY_RGT    TOMORROW ...
     book   that      (that) yesterday my father    there-buy        tomorrow    ...

... I₁  READ_LFT
... I   read it
```

Tomorrow I will read the book that my father bought yesterday

Moreover, in (106) the demonstrative and the NP which it is within bear a special facial expression, different from that which appears on the relative clause beginning with the time adverb YESTERDAY: in fact, it is the same expression appearing with topicalization and this suggests that the NP "BOOK THAT" resides in the TopP projection. This in turn is consistent with the fact that this verbal argument appears sentence-initially even though it is an object and the usual object position in LIS sentences is after the subject.

In other words the relativized NPs in LIS would appear sentence-initially regardless of their ϑ-role because of Top fronting movement of the relative clause together with its external head: this will be analyzed in next paragraphs.

For the sake of clarity, it must be noted that the noun FATHER is given PLACE-**RGT** since it is signed with the right hand and in the right part of the signer's face. The head-noun BOOK THAT, instead, besides being located in the left part of the space can be signed with the left hand. Also, the verb BUY agrees with a location indicating where the book *was before* being bought (here glossed as "there") because the verb implies the idea of "*taking a book from somewhere*".

What I would like to stress here, is that the informant who provided me the relative clauses translating them from Italian has a very good competence in both languages. However the context to make him clearer the matter was provided by me to him directly in LIS (as far as I know this language) in order to possibly prevent any misunderstandings: then I had this parenthetical expression checked by other informants.

3.2 Restrictive relative clauses

In (104) the name MARCO forces an appositive interpretation of the following relative clause and prevented the informant from a restrictive reading of the original sentence *"Marco to whom I spoke yesterday is the best student..."*. Accordingly the LIS translation provided by him displayed a parenthetical expression. Previously, I had asked my informant about the sentence *"Il ragazzo con cui parlavo ieri è fidanzato con mia sorella"* (=the boy I spoke to yesterday is engaged with my sister). Replacing the name MARCO with the head noun THE BOY/MAN produces the sentence *"The boy to whom I spoke yesterday is..."* which induces a restrictive reading, i.e. it is the relative clause which "selects" one particular boy namely the one I spoke to yesterday, among all the possible boys known to my listener and me.

Interestingly, the LIS translation provided by the informant in this case (and confirmed by other native LIS signers) was different from (104) in that it shows a special selective facial expression: the eyes are half-open like when smiling. This *"smiling" expression* spreads over the relative clause contained in the sentence (107).

------------------------- **"smiling" expression** ----------------------
107) MAN YESTERDAY ₁SIGN$_{MID}$ THAT-THAT$_{MID}$ SISTER-I ENGAGED TOGETHER$_{MID}$
$\qquad\qquad\qquad\qquad\qquad$ *<ind.>*$_{MID}$ $\qquad\qquad$ *<ind.>*$_{MID}$_____

The man/boy to whom I spoke (signed) yesterday and my sister are engaged together
The man/boy to whom I spoke (signed) yesterday is engaged with my sister

Likewise, the sentence (106) repeated here as (108) translates the sentence *"Domani leggerò il libro che mio papà ha comprato ieri"* (=tomorrow I'll read the book that my father bought yesterday):

----------------------------------- eyebrows raised ---

--------------------- "smiling" expression ----------------------

108) BOOK THAT$_{LFT}$ YESTERDAY FATHER$_{RGT}$ $_{RDG}$BUY   TOMORROW ...

... I$_1$ READ$_{LFT}$

Tomorrow I will read the book that my father bought yesterday

The informants also insisted that the head-noun must be signed with a particular facial expression (raised brows). Although I failed to find this in (107), the sentence (108) did display this non-manual component.

This "smiling" or selective expression is the same which signers employ at the beginning of a dialogue to ask their listener if (s)he knows the person/thing about whom they are going to discuss. It corresponds to the oral Italian form "Hai presente X? / Sai X" employed in sentences such as «Hai presente il ragazzo? *Quello che* ho visto ieri? Bene, lui mi ha detto...» or such as «Sai il libro? *Quello che* ho comprato prima? Bene, oggi....»

As for (107) and (108), two remarks need be made. The sentence (108) proves that emphatic pronouns are not compulsory with relative sentences, though they are often employed for the sake of clarity: they can also be replaced by not emphatic pronouns. In (107) the hand which had signed the *<ind.>*$_{MID}$ of the emphatic pronoun subsequently takes part in the performance of the two-handed sign SISTER and then signs again an index *<ind.>*$_{MID}$: this is not an instantaneous sign which decay immediately after its realization but can be hold while the other hand performs the remaining sentence and finally it accompanies the sign TOGETHER$_{MID}$ which requires a place to indicate who is together with whom. Holding indexes is not compulsory however, at least in this case, and seems to be a resort employed only to avoid confusion among the PLACEs involved in the sentence, as they are very close to each other because the noun MAN and the noun SISTER are signed just in the space between listener and speaker, very near to his body. However, only MAN seems to be given a specific place because it is referred to many times in the sentence, while SISTER is just signed once. This poses some questions about the status and the usage of PLACEs and indexes in LIS, although it appears that in LIS nouns needn't always be assigned a place as happens to the noun JACKET of the sentence (49a) in paragraph 2.3.1. Still this issue is a matter of secondary importance here.

What is important, for the purpose of the present work, is that LIS possesses specific facial expressions to distinguish restrictive relative clauses which select/identify a specific item in a set from appositive clauses which simply add information about an already identified item. In addition to this, the possibility that the head-noun be followed by a demonstrative like BOOK THAT in (108) proves that, though there are not always overt determiners in LIS, the restrictive relative clauses of this language have the pattern **N D RC**. Structure like (107) also shows that the external head-noun can coexist with a resumptive pronoun (emphatic or not) within the RC. Finally, it appears that relative clauses and their external head-nouns in LIS are usually fronted due to a TopP raising as proved by the fact that they bear the same *eyebrow-raised expression* employed to mark all LIS topicalized arguments even in non-relative clauses.

3.3 Non-restrictive relative clauses

Comparing the sentences (104, 105) on the one hand and (107, 108) on the other shows that LIS not only distinguishes restrictive clauses from all other clauses, but also has a special expression to mark appositive or parenthetical clauses.

This follows the same pattern found in Italian and English.

Still, LIS seems to distinguish also a third kind of relative clauses: clauses which we may say to be apparently restrictive although they do not really select the item spoken about in the sentence from a wider set. In such sentences the context itself or the knowledge of the world *induce* a clear identification of this item, though they do not *force* this identification which produces the appositive reading found with proper names.

In this sense, these clauses do not appear as appositives which add some "by-the-way" information to an NP already identified (e.g. by the proper name Marco in (104)), nor do they select one NP from a set (as in (106, 108)) because usually only one item is already understood both by the speaker and the listener due to the context. They act as adjectives.

To have an idea of this, take for example the sentence *«Give me the red pen which is on the table»*: of course there may be just one *red* pen on the table so that the adjective "red" in this case would not select anything and would be useless as both the speaker and the listener can identify the pen even in the absence of this adjective. Nevertheless one can utter this sentence, at least in Italian, without giving an appositive/parenthetical intonation to the adjective.

There are some relative clauses which behave like this adjective in that they are neither restrictive nor parenthetical.

For example, one can say to a friend «La macchina che ho comprato ieri non si avvia» *(The car I bought yesterday does not start)* where both know that probably only one car has been bought and therefore there is no need to distinguish a *car-bought-yesterday* from another *car-bought-last-week*, for example. This because people usually do not buy more than one car a time.

Likewise, one can tell his friend «Il topo che ho preso ieri mi ha morso una mano» *(The mouse I had caught yesterday has bitten my hand)* even though (s)he may well say simply «Il topo mi ha morso...» because finding and catching many mice in one's house is not so usual in modern day-life.

Thus, the clause *«...che ho preso ieri»* is not really useful to understand *which* mouse has bitten my hand today: it is not restrictive, nor does it bear an appositive "intonation" (in LIS, the facial expression). It helps *identifying* the mouse, but it does not *select* it.

Consistently, my informant, when requested to translate from Italian into LIS, spelled out the following sentence:

--------------------------- raised eyebrows ---------------------------
109) MOUSE$_{MID}$ YESTERDAY I$_1$ CATCH$_{MID}$ THAT$_{MID}$ HAND BYTE$_{LFT}$

The mouse I caught yesterday has bitten my hand

Interestingly there is not any "smiling" selecting expression as in restrictives, but only the "eyebrows raised" expression spreads over the entire piece of sentence (THE) MOUSE$_{MID}$ YESTERDAY I$_1$ CATCH$_{MID}$, i.e. it spreads over the relative clause and its head-noun. Then the matrix clause has a resumptive pronoun and neutral expression.

Note that, the NP *mouse* is felt as definite (THE MOUSE) since when asked to translate another sentence involving *a mouse* the informant provided another structure displaying the signs MOUSE   ONE_WHATSOEVER and a different facial expression. Indeed also in English and Italian the presence of a definite article "the, il" is often related to the fact that the noun is understand as a given (topicalized) argument in the discourse.

Nevertheless when requested if the sentence (109) would have been appropriated in the case in which one had spent the whole week catching mice in his old house (e.g. one mouse yesterday, another two days before and so on...) the informant confirmed that it could not because the "smiling" facial expression would have been necessary in order to distinguish *the-mouse-caught-yesterday* from the mice caught in other days. That is, the clause would have turned into a restrictive clause (see 3.2 above) *selecting one specific* mouse from the whole set of mice which have been caught.

3.4 Non-manual marking of restrictive RCs

Comparing sentences from (104) to (109) it turns out that in LIS the marking of relative clauses involves largely non-manual components. Therefore, it is important to take into account the non-manual components when dealing with relative clauses in LIS.

There are different facial expressions to mark different clauses: restrictive clauses require a special restrictive expression which conveys the idea of *selecting* a specific NP from within a set to be spoken about. Often the relative clauses and their head-nouns are fronted, instead of occupying the usual position in the matrix clause; in this case they get also another facial expression. As for the restrictive clause, this topic non-manual component is merged or, say, "superimposed" to the restrictive ("smiling") facial expression.

3.5 Fronting of RCs is topicalization

The fact that the relativized NP is often fronted in relative clauses was noted by Zucchi, Cecchetto and Geraci (2004): from paragraph 3.2 and 3.3 it appears that NP fronting, though not been compulsory, takes place at least when the relativized NP is an object (108) of the main verb. Nevertheless my data suggest that the whole relative clause can be fronted, at the beginning of the matrix clause together with the external NP.

The "eyebrows raised" facial expression, the same occurring with topicalization in plain sentences, suggests that this fronting may be due to the raising of the NP and its restrictive clause to a Top projection of the matrix clause. Indeed, the fact that the relativization of NPs can co-occur with Top-raising is proved in some oral languages, too.

Māori (examples are taken from Bauer, 2003) displays a basic VSO word order, although many differences in the constructions are found depending on the verb involved (transitive verb, experience verb...). Usually a verb and its time/aspect marker (TAM) begin the sentence followed by the subject and the objects which are introduced by different prepositions (underscores are mine while translations are mostly taken from Bauer).

110) Ka   hoatu ahau   **i** te   pukapuka   **ki**   a koe   (Bauer's 240)
   TAM Give   I   obj.-*the   book   to*   pers.art.-*you*-sg.
    V   **S**   **dO**   **iO**
I gave/give the book to you

111) Ka   pupuhi   ia   **i** te   manu   (Bauer's 1341a)
   TAM shoot   he obj.-*the   bird*
    V   **S**   **dO**
He shot the bird   *(lit. shot he the bird)*

Before analyzing the relative clauses some explication is required about the passive since Māori relativization often displays passive verbs. With them, the subject can follow the *e*-phrase (the agent) especially if this is a pronoun, but the verb still appears sentence-initially anyhow.

Thus (111) becomes (112):

112) Ka   pūhi·a   **e** ia   te   manu   (Bauer's 1341b)

    TAM   shoot-pass. *by him   the   bird*

      V   **O**   **S**

The bird was shot by him *(lit. was shot by him the bird)*

The same word order holds also in the case of relative clauses. The relativized NP usually remains in its basic position within the matrix clause, though it precedes the verb of the relative clauses proving to be an external head.

For example, speaking of a certain woman, (113) can be said:

113) E   waiata ana   te wahine   i   te huarahi rā   (Bauer's 3701b)

    TAM   sing   TAM   the woman   in   the street there

The woman is singing in that street

The hypothetic speaker could also state:

114) Ka   mōhio   ahau   ki   te wahine   (Bauer's 3701c)

    TAM   know   I   to   the woman

I know the woman

It is clear that in (114) TE WAHINE is an object and as such it follows both the verb and the subject. The fact that it is marked by *ki* (instead of *i*) is irrelevant here, depending on the fact that an experience verb is employed.

When (114) and (113) are combined to build a relative clause this NP still occupies the usual object position, even if it is relativized.

115) Ka mōhio ahau   ki *te wahine **e waiata ana i te huarahi rā*** (Bauer's 3701a)

    TAM   know   I   to the woman   TAM singing TAM in the street there

      V   **S**   **O rel.**

                         (head   **V**   **O)**

I know the woman who is singing in that street

A comparison between (115) and (114) proves that the object, although relativized, still follows the main verb KA MŌHIO *(=know)* in the matrix clause and its subject AHAU *(=I)*. Comparing (115) to (113) on the other hand, one sees that the head noun TE WAHINE *(=the woman)* is outside the relative clause, before the verb E WAIATA ANA *(=is singing)*. So even if neither overt complementizer nor relative pronouns are displayed, it turns out that in (115) there is an external-headed relative clause. Thus, the external head noun together with its relative clause works as a relativized object (marked by the preposition KI) with respect to the main verb and occupies its own canonical position in the matrix clause.

Leaving aside this issue, for a while, another feature of Māori has to be described in order to proceed with this analysis.

Māori possesses a specific word *ko* to mark topicalized arguments. Arguments marked with topicalizing *ko* appear sentence-initially, as noted by Bauer. Thus, although usually subjects follow the verb (117), a different word order can appear (118):

117) Ka mea atu   te rōpā rā...   (from Bauer's 1361)
    TAM say   away   the slave there...
           V   **S**

The/That slave said...

118) Ko te nuinga   ia   i mea...   (from Bauer's 1362)
    TOP the majority contr. *TAM say...*
      top. S   **V**

The majority, however, said...

Topicalization in Māori does not occur only with subjects, but also with other NPs; under certain conditions resumptive pronouns, e.g. possessives, appear.

119) Ko te wahine puhi   haere ake anō **ana** hoa noho i a ia   (Bauer's 4212)
 As for the young high-ranking virgins, **their** constant companions also went with them.

Interestingly, in Māori, relative clauses and their external head NPs can also appear sentence-initially, before the matrix clause and in this case they are introduced by the topic *ko*. A clear example of this co-occurrence of relativization and topicalization is provided by (120) below.

Take for instance the following story. It tells about the origin of some geographical names in New Zealand: these names derive from the warriors who died there.

(1051 transl. by Bauer) *The first of Rakapare's warriors to be killed in the pursuit was Totara-pounamu, who fell at the mouth of TeTauhua. The place is called Toutara-pounamu today. Another fell at Kopia and that name, Kopia belongs to him. After Kopia, Waihi fell, and the Turi-akina, and Toka-piko, and Tu-moana...*

After the warriors and the places have been introduced, the story states that these places are still called with those names. Since the places where the warriors fell have already been introduced, they are considered as a given topic and fronted (taken from Bauer's example 1051):

120) …<u>Ko ngā wāhi **i hinga ai aua toa** </u>, i tapa·a tonu·tia iho   ki ō rātou ingoa

        top. S rel.   **V**   **O**

<u>The places (**where) this warriors fell**</u> are still called by their names.

The relative clause and its head-noun appear sentence-initially, before the passive verb-phrase I TAPAA TONUTIA IHO *(=are still called),* and are preceded by the Māori topic marker *ko,* corresponding to the Japanese topic postposition *wa.* Recall that in Māori there are neither overt complementizers nor pronouns identifying the relative clause (although a particle *ai* appears here).

Another example of this co-occurrence of relativization and subsequent topicalization is found in the following sentence:

121) …<u>Ko   te hapū **e noho ana i Maungawhau**</u> e mea ana… (Bauer's 1111)

    TOP the hapu TAM stay TAM at Maungawhau   TAM say TAM...

    top. Srel.   **V**

The sub-tribe living at Maungawhau said...

The word order of (120, 121) clearly appears to be "*ko*"SV as in (118) rather than being the canonical VS(O) of Māori found in (117), where the relativized subject is raised before the verb. This raised argument is made of the head-noun and its restrictive relative clause.

Thus, not only the relativized NP is an external head, but the whole unit *EXTERNAL_HEAD +
RESTRICTIVE_CLAUSE* (acting as the subject of the main verb) is fronted before the verb of the
matrix clause instead of occupying its canonical position (post-verbal in Māori).

Consistently, as the fronting has occurred the moved material is preceded by the topic marker
ko. Thus there is evidence that, after a relativization occurs, also an optional topicalization
movement can take place raising the whole subordinate clause into the TopP of the matrix
clause together with its external head.

This matches the phenomena found in LIS sentences such the previous (108) and leads to
conclude that in this language too relativization can be followed by topicalization at least in
the case of objects, the only difference being that LIS marks Top positions with a non-manual
component (raised eyebrows) rather than lexically.

Indeed the structure of (108) was deemed appropriate in the case of other sentences such as
"Yesterday I phoned to the friend (whom) I have just told you about". This proves that in LIS
too there are external-headed restrictive relative clauses and that these clauses together with
their head-nouns can be raised before the matrix clause at the beginning of the whole
sentence, probably in TopP since all the fronted material bear the same "eyebrows raised"
facial expression generally employed for topic marking in LIS, besides the "smiling"
expression (which however spreads only over the restrictive clause leaving aside the NP
which constitutes the external head).

3.6 The Promotion Theory and LIS restrictive RCs

Having discerned the fronting of the head-noun with respect to the relative clause, from the topicalization of the whole RC within the matrix clause, it is now possible a deeper analysis of LIS restrictive relative clauses.

In particular despite LIS lacks overt determiners such "the, il, i...", in paragraph 3.2 evidence has been found that LIS has external-headed RC at least in the varieties employed by my informants. It has also turned out that the restrictive RCs of this language are of the kind "N D RC", although it does not always realize determiners overtly. Finally, LIS allows the presence of resumptive pronouns within the relative clause and within the matrix clause.

This pattern, besides paralleling the behaviour of some oral languages, has also been explained in the light of the so-called *Promotion Theory*. In De Vries (2002), an explication of the relativization processes leading to restrictive clauses is given, starting from Kayne's propose and from the fact that «a universal spec-head-comp basis is preferable».

Thus the head-noun is posed to be generated within the RC and subsequently *promoted* to higher projections through different overt/covert raisings driven by feature-and-case-checking requirements.

Indeed, in these RCs the relative pronoun acts as the argument of the subordinate clause verb, while the head-noun behaves as the argument of the matrix clause verb. This means that they have different Case (even if abstract).

Therefore, the building-up of restrictive clauses of the N D RC type is described in general terms through the following steps:

- the head-noun is generated in the subordinate clause (as it plays a semantic role in the RC) as the complement of a relative pronoun
- NP and DP (rel.pron.) bear φ-features which need be checked, but their Case may be different; relative pronouns also have *wh*-features
- because of this, there cannot be N-to-D raising and incorporation is not possible

- thus the NP moves into [Spec; DPrel] and checks φ-features but Case-checking must be performed at a higher level

- indeed, DPrel can check its Case within the relative clause but N cannot since it has a different Case

- at this point the CP-level is added and the DPrel, which possesses *wh*-features moves to [Spec; CP] to check them

- then the whole CP is merged as complement of a higher determiner; the external DP which will make part of the matrix clause and will be an argument of the verb of the matrix clause

- In this way, the head-noun N is in [Spec; DPrel] which in turn resides in [Spec; CP] and there is no barrier between N and the higher determiner

The steps above are formulated in the following terms:

... [CP [DPrel [NP **N**] (Drel) *t*NP]DPrel (C) [IP ... *t*DPrel.]]

Then the derivation goes on as follows:

- the φ-features of this higher D attract N and its case-checking is now possible through an incorporation movement; N can move overtly or covertly into D

- the whole higher DP is inserted into the matrix clause (this is consistent with the fact that such restrictive relatives are external-headed, i.e. the head-noun is outside them)

This hypothesis relies on other assumptions, like the fact that the features can be strong or weak; these play an important role in the process in that strong features trigger overt incorporation of N into D, whereas *weak features* yield a covert movement which means that *only the formal features* of N *incorporate* but the lexical content does not move.

This explains while, for example in Swedish the head-noun has an enclitic post-posed determiner *(Jag talade med mann-**en** som... = I have spoken with man-**the** that...)* while in German it does not *(...mit **dem** Mann der...= with **the** man who...)*: in Swedish there is overt movement of N to (higher) DP, while in German the movement is covert involving only the formal features of N.

The steps above are formulated in the following terms:

$[_{DP} [_{D} \textbf{N+D}] \quad [_{CP} [_{DPrel} [_{NP} \textit{t}_{N}] (Drel) \textit{t}_{NP}]_{DPrel} (C) \quad [_{IP} ... \textit{t}_{DPrel.}]]]$ *(Swed.:* mann**en***...)*

$[_{DP} [_{D} \text{FF(N)}+\textbf{D}] \quad [_{CP} [_{DPrel} [_{NP} \textbf{N}] (Drel) \textit{t}_{NP}]_{DPrel} (C) \quad [_{IP} ... \textit{t}_{DPrel.}]]]$ *(Germ.:* **den** Mann...*)*

Recall that, although LIS agreement between verb and arguments is not based on overt Case/Gender, it is realized through overt PLACE-marking: in this respect the behaviour of LIS is consistent with this hypothesis in that the PLACE-feature of the head noun agrees with the verb of the matrix clause, not with the verb of the subordinate clause. Indeed the phrase BOOK THAT$_{LFT}$ in (108) agrees with the verb I$_1$ READ$_{LFT}$ in the matrix clause not with the subordinate clause verb. This reflects the fact that the relativized head-noun and its DP-shell act as the object of the matrix clause. Also note that inserting the phrase BOOK$_{RGT}$ THAT$_{LFT}$ in (108) leads to ungrammaticality, consistently with the findings that although LIS nouns are not always overtly marked for PLACE there is nevertheless agreement between them and their determiners (when overtly realized). On the contrary BOOK$_{LFT}$ THAT$_{LFT}$ would be more acceptable.

Thus the Promotion Theory of relativization is proved to work also with LIS restrictive clauses, given the assumptions in paragraph 1.2.3 and 2.4.1 that LIS agreement is based on the overt realization of PLACE rather than overt Case/Gender-marking.

Still, the possibility of introducing a resumptive pronoun within the relative clause raises some problems: first, how is this compatible with the hypothesis that the DPrel moves in [Spec; CP]? Secondly, the resumptive pronoun within the restrictive RC is not *in situ* since it does not occupy the usual object position before the verb, but it is sentence-final as results from (107) repeated here as (122)

---------------------------- "smiling" expression ---------------------

122) MAN YESTERDAY $_{1}$SIGN$_{MID}$ THAT-THAT$_{MID}$ SISTER-I ENGAGED TOGETHER$_{MID}$
                                $<ind.>$$_{MID}$ $<ind.>$$_{MID}$＿＿＿＿＿＿

The man/boy to whom I spoke (signed) yesterday and my sister are engaged together
The man/boy to whom I spoke (signed) yesterday is engaged with my sister

This, nevertheless, turns out to bring more evidence in favor of the Promotion Theory if we accept some of De Vries' assumptions and have a closer look to the structure of LIS as explained in next paragraphs.

3.7 Raisings in LIS

Turning our attention to a deeper analysis of LIS syntax some comparisons can be made. First, the word order within the relative clause in (122) appears to be the same as in the LIS *wh*-questions provided in paragraph 2.5.4: indeed, both the interrogative pronoun of (83) and the resumptive pronoun within the RC (122) appear sentence-finally. In an Antisymmetric approach, and given the SOV order in LIS plain sentences, this fact can only be explained through subsequent leftward raisings. After verbal agreement is realized with the object (recall that LIS verbs agree with subject and objects), a further raising of the object must occur, followed by some remnant movement which raises subject and verb higher than the object.

In other words the following raisings must be posed to occur in LIS where O_{INTERR} represents the verbal object which is questioned by the interrogative pronoun:

S O_{INTERR} V --> O_{INTERR} SV --> SV O_{INTERR}

As for (83), this hypothesis is consistent with the fact that generally interrogative pronouns must raise into [Spec; CP] to check their *wh*-features and with the fact that the pronoun is not in-situ (i.e. not **you who speak?).* Thus in LIS this raising is somehow hidden by a remnant movement which strands the interrogative in an apparent final position (*you speak who?)* rather than at the beginning of the sentence *(who do you....)*.

As for restrictive clauses, indeed, this also matches the assumptions in De Vries that DPrel raises into [Spec; CP] to check its *wh*-features. It is also evidence that the pronoun appearing within the restrictive clause (122) is not an *in situ* resumptive pronoun.

Still, one must observe that in LIS the object appears sentence-finally also when it receives focus: recall the example (23) in paragraph 2.1.2.

The fact that the focused object can appear sentence-finally, although not easily visible in SVO languages, has been proved to happen in SOV languages such as the Tamil (data drawn from Vaijahanthy Sarma, 2003)

3.8 Pronouns within LIS restrictive RCs

It must be recalled that the resumptive pronoun within the RC (122) has the same emphatic form $\begin{array}{c} \text{THAT-THAT}_\text{x} \\ <ind.>_\text{x} \end{array}$ found in contrasting sentences as (23) where **X** can be right, left or any other location, depending on the sentence: this pronoun is never used as a *wh*-sign in LIS so a problem arises as to the fact that the DP within the restrictive RC should move to [Spec; CP] to check its *wh*-features before the head-noun **N** undergoes a further raising and joins the higher DP in the matrix clause.

On the one hand, LIS restrictive relative clauses too appear to involve the movement of some DP possibly to check their *wh*-features like in interrogative sentences, while on the other hand the moved item seems to bear no *wh*-features at all and rather behaves like in focusing sentences.

In other words the DP within the restrictive RC is not *in situ* but a raising must occur: this appears to be a *wh*-movement but no *wh*-features are involved.

Yet, it is widely accepted that *wh*-questioning also involves focusing of the *wh*-word and it is worth recalling that a general assumption is accepted that the CP projection is made of different layers among which a focus-phrase FocP is counted (split-CP).

From this point of view, the fact that pronouns within LIS *wh*-questions, focus sentences and restrictive relative clauses appear in the same sentence-final position can be accounted for and the Promotion Theory of relativization can be maintained even for LIS external-headed restrictive clauses which have been found to exist at least in some variety.

Yet, the fact that in LIS restrictive RCs there can appear pronouns specific for focus and not bearing *wh*-features suggests that the raising of the clause-internal DP into CP is driven by *focus*-feature checking, possibly in the CP layer [Spec; FocP] rather than by *wh*-feature checking.

Further research need be carried out with respect to this hypothesis, but nevertheless some empirical observations can be brought in support of it.

Restrictive RCs can often be seen as answers to some *wh*-questions. For example the sentence *«Tomorrow I will read the book that my father bought yesterday»* could well be the answer to the question *Which/What book will you read? (What of those books will...)* which to a certain extent requires a selection.

In this respect, restrictive relative clauses mean selection of one specific item from a set as proved by the comparison of the different LIS facial expressions: *Which book? The one that...*

Nevertheless, restrictive clauses are clearly no interrogative and do not bear neither interrogative intonation (in oral languages) nor expression (in LIS).

In other words, although be related to questioning, restrictive clauses are not questions.

Still, the selection of one argument from a set *(the book that, the boy who...)* yields a contrast: given the question *Which book will you read?*, the answer will be *«Tomorrow I will read the book that my father bought yesterday» (*understanding: *and not others!)*

Also, in paragraph 3.3 the sentence (109) *«The mouse I caught yesterday has bitten my hand»*, which only bears a topic expression, gets a restrictive expression when the context implies many possible mice, in contrast to which only *the mouse of yesterday* is said to have bitten my hand.

Thus, while restrictive RCs cannot be considered as direct questions, it is true that both restrictive RCs and *wh*-questions share focus contrast and as such probably undergo the same transformations.

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