A Grammar of Italian Sign Language (LIS)

edited by
Chiara Branchini and Lara Mantovan

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Lingue dei segni e sordità

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In this chapter, the reader will be introduced to the architecture of clause structure. We will describe how predicates select arguments and how this determines the final form of the clause.

2.1   The syntactic realization of argument structure

Verbs combine with a specific number of referents or participants in order to express a full predication that refers to an event or a situation. Participants that obligatory appear with a predicate are called *arguments*. The argument-taking property of a predicate constitutes the *argument structure* of that predicate.

The argument structure of a predicate in LIS is strictly connected to the number and type of arguments required by its syntax to represent an event.

Arguments are typically distinguished by their role (also called thematic role) in the event or state the sentence talks about. For example, an argument can receive the (thematic) role of agent (the argument which starts an action, as 'Gianni' in 'Gianni broke the window'), theme/patient (the argument which is affected by the action, as 'the window' in 'Gianni broke the window') goal (the argument which is the final point of a transfer as 'Gianni' in 'Maria gave Gian-

ni a letter') or experiencer (the argument to which a certain psychological state is attributed, as 'Gianni' in 'Gianni is happy').

Commonly, arguments of a predicate are associated with the subject, the direct object and the indirect object. In this respect, arguments are different from *adjuncts*, represented, for example, by time, locative, and manner adverbials, since they contribute to the knowledge of the event with additional, non-required information.

In this section, we describe how arguments are mapped onto the syntactic structure of LIS predicates. This is a domain where syntax and morphology interact, so overlapping between sections of the lexicon, morphology and syntax within the grammar are expected.

LIS displays transitive, ditransitive and intransitive verbs and the type of verb determines the number and type of arguments. The syntactic and thematic role of arguments is equally important in the argument structure of LIS predicates: while the syntactic role (subject, direct object, and indirect object) determines the position of the argument in the sentence [SYNTAX 2.3.1.1], the thematic role (agent versus theme, for example) can influence the hand configuration of a class of predicates, namely classifier predicates [SYNTAX 2.1.1.5].

We will see that arguments may be expressed through noun phrases, pronouns, full clauses, or they can be incorporated in classifier predicates. The type of argument produced may affect the word order of elements in the sentence [SYNTAX 2.3] and, vice versa, the type of predicate employed may have an impact on the overt realization of arguments. We will illustrate how LIS displays pairs of predicates with the same verbal root, but with an intrinsically different argument structure. We will observe transitive/intransitive and unaccusative/unergative alternation of the predicate pair, determining a different selection of arguments.

2.1.1 Types of predicates

LIS predicates can be transitive, ditransitive and intransitive. This classification reflects the number of arguments required by the predicate to adequately represent the event. Transitive verbs in LIS select for two arguments, the subject and the object; ditransitive verbs select for three arguments, the subject, the direct object and the indirect object; while intransitive verbs select for only one argument, the subject.

In this section, the three types of predicates are described with a direct reference to the LIS predicates representing each type. Psychological and meteorological predicates are also illustrated, as well as the presence of predicates whose argument structure varies according to the thematic role of the arguments selected.

2.1.1.1 Transitive and ditransitive predicates

LIS transitive predicates select for two arguments. The prototypical thematic roles for the two arguments of transitive predicates are agent and theme, syntactically realized as subject and direct object, respectively. As for the thematic roles of the two arguments required by LIS transitive predicates, however, some variation is attested. The subject of a transitive predicate like FORGET, for example, has the thematic role of experiencer, while the object of a verb of movement like GO, when used transitively, has the thematic role of goal.

LIS transitive predicates belong to all verbal classes: plain verbs, agreement verbs, and spatial verbs [LEXICON 3.2].

Transitive predicates in LIS can be plain verbs like EAT, DRINK, PHOTOGRAPH, WANT, FORGET articulated on the body of the signer. In the following example, the verb FORGET is a plain verb selecting an experiencer, LUCA, and a theme, KEY.

> L-U-C-A KEY FORGET
> 'Luca forgot the keys.'

Transitive predicates in LIS can also be agreement verbs with two points of articulation in the neutral space, like KILL (a); agreement verbs with one point of articulation in the neutral space, like BREAK (b); and agreement verbs articulated on the body of the signer and moving towards the neutral space, like SEE (c).

> a. M-A-R-I-O THIEF KILL
> 'Mario kills the thief.'

> b. CHILD COMPUTER BREAK
> 'The child breaks the computer.'

> c. L-U-C-A TELEVISION SEE
> 'Luca watches the television.'

Transitive verbs are also a subclass of LIS agreement verbs, called *backward verbs*, whose peculiarity is that they start in the location of the neutral space associated with the theme, object of the verb, and move towards the agent, subject of the verb. LIS backward verbs like TAKE, COPY, INVITE, RECEIVE, and CHOOSE belong to this class.

> L-U-C-A KEY TAKE
> 'Luca takes the keys.'

Transitive predicates can finally be spatial verbs, like MOVE, taking two arguments (the agent and the theme) and optionally two locative adjuncts, represented in the following example by the locations in space corresponding to the beginning and end of verb movement.

IX$_1$ BOOK $_a$CL(flat open 5): 'move_book'$_b$
'I move the book (from here to there).'

On the other hand, the syntactic structure of verbs of movement, like GO, RUN, and ARRIVE, is difficult to determine, as they select for the subject argument and for an implicit argument, the goal or locative argument, SCHOOL in the following example. In these verbs, the goal argument is semantically obligatory, that is, it must be shared by the interlocutor, but syntactically optional, as verbs of movement can also be used intransitively. In order to be omitted, the goal argument must be contextually given.

CHILD SCHOOL ARRIVE
'The child arrived at school.'

LIS ditransitive predicates select for three arguments. The prototypical semantic roles for the three arguments of ditransitive predicates are agent, theme and goal. They are syntactically realized as subject, direct object and indirect object respectively, and often express some notion of transfer.

LIS ditransitive predicates can be agreement and spatial verbs. Ditransitive predicates in LIS are agreement verbs with two points of articulation in the neutral space, like DONATE (a) and agreement verbs whose starting point is on the signer's body, like SAY (b).

a. WOMAN CHILD BOOK DONATE
'The woman donates a book to the child.'

b. L-U-C-A P-A-O-L-O LIE SAY
'Luca tells a lie to Paolo.'

Likewise, classifier predicates conveying the concept of transfer select for three arguments: the agentive subject, the theme direct object, and the goal indirect object, as shown below.

a. L-U-C-A G-I-A-N-N-I DRINKING_GLASS CL(unspread curved open 5): 'give_glass'
'Luca gives a/the glass to Gianni.'

b. L-U-C-A G-I-A-N-N-I CAR CL(closed 5): 'lend_car'
'Luca lends the car to Gianni.'

Ditransitive spatial verbs, like CL(flat open 5): 'put_book', select for a subject, direct object, and locative argument.

TEACHER BOOK SHELF CL(flat open 5): 'put_book'
'The teacher puts the book on the shelf.'

2.1.1.2 Intransitive predicates: unergatives and unaccusatives

LIS intransitive predicates select for one argument, the subject. On the basis of the thematic role of the subject argument, they can be distinguished into unergative and unaccusative verbs.

The subject of LIS intransitive unergative predicates has the thematic role of agent. Activity verbs like DANCE, TALK, RUN, LAUGH belong to this class. Intransitive unergative predicates in LIS can be plain verbs and agreement verbs. Intransitive unergative plain verbs like SLEEP, LAUGH, CRY, and COUGH are produced on the body of the signer (a), while intransitive unergative agreement verbs are produced in the neutral space without movement displacement, like the verbs WORK, RUN, and PLAY (b).

a. M-A-R-I-A LAUGH
'Maria laughs.'

b. CHILD PLAY
'The child plays.'

The subject of LIS intransitive unaccusative predicates has the thematic role of theme and is typically non-agentive. In LIS, intransitive unaccusative predicates can be plain verbs like BE_BORN produced on the body of the signer (a), agreement verbs with two points of articulation in the neutral space, like ARRIVE (b), and agreement verbs with one point of articulation in the signing space like DIE, FALL_DOWN, BRAKE, MELT, RISE, COLLAPSE, LEAVE, and GROW_UP (c). In some sentences, the distinction between unaccusative and unergative predicates based on the semantic role of the subject is not very intuitive, as in a sentence like 'The teacher arrived'. However, the fact that the subject of 'arrive' can be inanimate ('The letter arrived', as in (d)) indicates that the subject is not an agent, so the verb 'arrive' is usually classified as unaccusative.

a. YESTERDAY BABY BE_BORN
'Yesterday the baby was born.'

b. TEACHER ARRIVE
'The teacher arrived.'

c. P-A-O-L-O GROW_UP
'Paolo has grown up.'

d. LETTER ARRIVE DONE
'The letter arrived.'

When the object of otherwise transitive predicates like EAT, DRINK, GO, and RUN is contextually understood, they can be used intransitively. In this case, they only select for the subject argument.

L-U-C-A EAT DONE
'Luca ate.'

2.1.1.3 Psychological predicates

Psychological predicates express a mental state. LIS distinguishes between stative psychological predicates, like HATE, BE_ANGRY, LIKE, and FEAR and causative psychological predicates, like the English verb 'scare', indicating that an agent induces the psychological state of the experiencer. In the following example, we illustrate a stative psychological predicate represented by a transitive plain verb selecting a subject with the thematic role of experiencer, IX_1, and an object with the thematic role of theme, WAR.

IX_1 WAR FEAR
'I fear wars.'

Psychological stative predicates can also be transitive agreement verbs selecting a subject with the thematic role of experiencer and a direct object with the thematic role of theme, as in the following example where the verb HATE is produced in the neutral space with two points of articulation.

L-U-C-A P-A-O-L-O HATE
'Luca hates Paolo.'

As for causative psychological predicates, LIS employs a causative auxiliary, GIVE_AUX and a sign expressing the psychological state, like FEAR.

EARTHQUAKE GIVE$_1$_AUX FEAR
'Earthquakes scare me.'

2.1.1.4 Meteorological predicates

In LIS, meteorological predicates like RAIN (a) and SNOW (b) do not select for any overt argument, as shown in the examples below.

a. TODAY RAIN
'Today it rains.'

b. TOMORROW SNOW
'Tomorrow it will snow.'

2.1.1.5 Argument structure alternations

In LIS, the same verbal root may appear in a transitive or intransitive event. This alternation is found both in lexical and classifier predicates.

In lexical predicates, the same verbal root can be found in transitive constructions selecting an agentive subject and an object with the thematic role of theme (a), and in intransitive unaccusative predicates selecting a subject with the thematic role of theme (b), as illustrated in the following examples.

a. CHILD COMPUTER BREAK
'The child breaks the computer.'

b. COMPUTER BREAK
'The computer breaks down.'

In LIS classifier predicates, the transitive/intransitive and unergative/unaccusative alternations are encoded through a different hand configuration. More specifically, handle classifiers [MORPHOLOGY 5.1.3] are used in transitive predicates encoding an agentive subject and a theme object, as in (a) below, while entity classifiers [MORPHOLOGY 5.1.1] are used with intransitive unaccusative predicates encoding a

theme subject, as in (b). The examples below illustrate the transitive /intransitive unaccusative alternation.

a. M-A-R-I-A BOOK CL(flat open 5): 'take_book'
'Maria took the (standing) book.'

b. BOOK CL(unspread 5): 'book_fall_down'
'The (standing) book fell down.'

Furthermore, bodypart classifiers [MORPHOLOGY 5.1.2] are used in intransitive unergative predicates encoding an agentive subject, as in (a) below, while entity classifiers are used in intransitive unaccusative predicates encoding a theme subject, as in (b). The unergative / unaccusative alternation is illustrated in the examples below.

a. WOMAN CL(closed 5): 'bow'
'The woman bows.'

b. WOMAN CL(V): 'fall_down'
'The woman falls down.'

2.1.2 Argument realization

In LIS, verbal arguments can be realized as noun phrases, pronouns, they may be incorporated in classifier predicates by being encoded in their hand configuration, or they can be full clauses. This section illustrates these possibilities.

2.1.2.1 Overt noun phrases

It is very common for LIS to realize arguments as noun phrases, both as common nouns and proper names. When this happens, they occupy their argument position in an unmarked word order [SYNTAX 2.3], as shown in the example below.

L-U-C-A ELEPHANT LIKE
'Luca likes elephants.'

However, overt noun phrases may also appear in non-argument positions as an effect of syntactic modification induced by discourse factors, such as topic or focus [PRAGMATICS 4]. When this happens, noun

phrases are always produced with a specific non-manual marking signalling their production in a different position. The following sentence shows an object noun phrase produced at the beginning of the sentence, as an effect of topicalisation.

    <u>   top   </u>
ELEPHANT L-U-C-A LIKE
'As for elephants, Luca likes them.'

The same argument, when composed of more than one sign, may occur as a discontinuous constituent, that is, part of it appears in its argument position, while another part occurs in a non-adjacent position in the sentence. In the example below, the signs VEGETABLE ALL form one constituent but, due to topicalisation of the noun phrase VEGETABLE, the quantifier ALL is separated from it and it is produced in object position [SYNTAX 4.4.2].

    <u>   top   </u>
VEGETABLE L-U-C-A ALL LIKE
'As for vegetables, Luca likes them all.'

In the following example, the signs FRIEND NOBODY form one constituent, however only the noun phrase FRIEND appears in object position, while the negative quantifier NOBODY occupies the position in the sentence devoted to negative elements [SYNTAX 1.5.1.2.1].

    <u>   neg   </u>
L-U-C-A FRIEND INVITE NOBODY
'Luca didn't invite any friend.'

Similarly, in the following example, the signs BOOK WHICH form a single constituent, but only the noun phrase BOOK occupies the object position, while the sign WHICH occupies the common position in the sentence devoted to *wh*-phrases [SYNTAX 1.2.3.5].

    <u>   wh   </u>
STUDENT BOOK BUY WHICH
'Which book did the student buy?'

2.1.2.2 Pronouns

In LIS, arguments may also be produced as pronouns. Within this category, we can find personal pronouns [LEXICON 3.7.2], demonstrative pronouns [LEXICON 3.7.1], possessive pronouns [LEXICON 3.7.3], and reflexive pronouns [LEXICON 3.7.4]. The examples below illustrate a personal pronoun (a) and a demonstrative pronoun (b) argument.

   a. IX$_1$ EARTHQUAKE FEAR
   'I fear earthquakes.'

   b. IX$_1$ LIKE IX(dem)
   'I like this one.'

2.1.2.3 Verb agreement

Verb agreement helps identifying the argument structure of predicates, as it is produced only with arguments, and it concerns both personal and locative agreement. We shall look at how verb agreement is realized in LIS, both manually and non-manually.

2.1.2.3.1 Manual verb agreement

In LIS, morphological manual agreement of the verb with its arguments takes place only with agreement verbs and spatial verbs. As previously illustrated [SYNTAX 2.1.1], these verb classes surface in transitive, ditransitive and intransitive constructions.

In transitive constructions displaying an agreement verb, subject agreement encodes the agent argument and object agreement encodes the theme argument. Depending on the physical articulation of agreement verbs, morphological manual agreement is subject to variation.

Agreement verbs with two points of articulation in the neutral space show overt morphological agreement with both the subject and object. The sign for the verb starts in the location of the signing space associated with the subject to move toward the location associated with the object, as in the following example.

TODAY IX$_a$ HORSE$_a$ IX$_b$ SASS: 'small' HORSE$_b$ IX$_{3a}$ $_a$GIVE_BIRTH$_b$ 🖐
'Today the horse gave birth to the pony.'

Agreement verbs with one point of articulation in the neutral space, like BREAK, and agreement verbs articulated on the body of the signer moving towards the neutral space, like SEE, overtly agree only with the theme argument, as shown in (a) and (b) respectively.

>   a. CHILD COMPUTER$_a$ BREAK$_a$
>   'The child breaks the computer.'

>   b. L-U-C-A TELEVISION$_a$ SEE$_a$
>   'Luca watches television.'

When a verb like SEE selects for a first person singular subject, however, agreement is with both the subject and the object, as the movement path starts from the signer's body.

In ditransitive constructions displaying an agreement verb with two points of articulation in the neutral space, morphological manual agreement is with the subject argument, encoding the agent/ source, and the indirect object, encoding the goal/recipient argument. The theme argument is not expressed through agreement morphology on the verb.

>   P-A-O-L-O$_a$ G-I-A-N-N-I$_b$ CAR $_a$DONATE$_b$
>   'Paolo donates the car to Gianni.'

An exception to morphological agreement in ditransitives is represented by classifier predicates encoding the features of the theme through hand configuration, thus showing overt manual agreement with the three arguments [SYNTAX 2.1.2.4].

>   a. L-U-C-A$_a$ G-I-A-N-N-I$_b$ DRINKING_GLASS $_a$CL(unspread curved open 5): 'give_drinking_glass'$_b$
>   'Luca gives the glass to Gianni.'

>   b. L-U-C-A$_a$ G-I-A-N-N-I$_b$ CAR $_a$CL(closed 5): 'lend_car'$_b$
>   'Luca lends the car to Gianni.'

As shown in the examples above, morphological agreement of classifier predicates with the direct object through hand configuration does not imply omission of the object argument.

In ditransitive constructions displaying an agreement verb articulated on the body of the signer moving towards the neutral space, overt morphological manual agreement is only with the indirect object, as shown in the following example.

L-U-C-A P-A-O-L-O~a~ LIE SAY~a~
'Luca tells a lie to Paolo.'

In intransitive unergative constructions displaying an agreement verb produced in the neutral space without movement displacement, the verb may (a) or may not (b) show overt morphological spatial agreement with the agentive subject.

a. CHILD~a~ PLAY~a~
'The child is playing.'

b. CHILD PLAY
'The child is playing.'

On the other hand, in intransitive unaccusative predicates, agreement verbs obligatorily show overt spatial agreement with the theme argument encoding the subject.

LIFT~a~ BREAK~a~
'The lift broke down.'

Spatial verbs are the other class of verbs showing manual agreement by means of path movement (with motion verbs) or localization at a point (with locative verbs). With motion verbs, the initial and final points of the path agree with the locations of the source and goal arguments that define the path, as in the following examples.

a. L-U-C-A~a~ BANK~b~ ~a~RUN~b~
'Luca runs to the bank.'

b. BOLOGNA~a~ ROME~b~ ~a~BRING~b~
'(He) brought (it) from Bologna to Rome.'

As previously seen for the agreement verb GIVE, the spatial verb PUT is often produced through a classifier predicate encoding the features of the theme through hand configuration, thus showing overt manual agreement with the agent, theme, and locative argument, as shown in the example below.

L-U-C-A~a~ BOOK SHELF~b~ ~a~CL(flat open 5): 'move_book'~b~
'Luca puts the book on the shelf.'

Non-movement spatial verbs that have a location argument simply agree with it by localizing the verbal sign in the same position of the location argument, as shown by the verb STAY in the following example.

S-A-R-A THREE⌢YEAR ROME_a STAY_a
'Sara stayed in Rome for three years.'

Intransitive non-movement spatial verbs with a location argument may also be produced through a classifier predicate whose hand configuration encodes agreement with the subject, as shown below.

CHILD_a CL(G): 'be_at'_a
'The child stands.'

In general, agreement and spatial transitive predicates must show overt morphological agreement with the direct object. Agreement and spatial ditransitive predicates must show overt morphological agreement with the indirect object. For both types of predicates, agreement with the subject is optional. Intransitive unergative predicates optionally show morphological agreement with the subject, while intransitive unaccusative predicates obligatorily show agreement with the subject.

Lack of overt morphological agreement in LIS is allowed for quantified arguments, such as negative quantifiers (NOTHING, NOBODY), or non-specific and generic quantifiers (SOMETHING, SOMEONE). The following example shows a negative quantifier and the lack of verb agreement.

L-U-C-A BUY NOTHING
'Luca didn't buy anything.'

With causative psychological predicates, the causative auxiliary GIVE_AUX shows overt morphological agreement with the subject and the experiencer object, as in the following example where the experiencer is a first person.

EARTHQUAKE_{a a}GIVE₁_AUX FEAR
'Earthquakes scare me.'

In predicates displaying argument structure alternation, the verb only shows overt morphological manual agreement with the theme argument (COMPUTER in the examples below), that is the sentence object in (a), and the subject in (b).

a. CHILD COMPUTER$_a$ BREAK$_a$
'The child breaks the computer.'

b. COMPUTER$_a$ BREAK$_a$
'The computer breaks down.'

Finally, it is important to point out that covert arguments are possible in LIS, if contextually understood. An illustration of the possibility to have covert arguments is provided by the following examples exemplifying a transitive (a) and a ditransitive predicate (b).

a. $_a$SCOLD$_b$
'(S)he scolds him/her.'

b. BOOK $_a$CL(flat open 5): 'give_book'$_b$
'(S)he gives the book to him/her.'

Plain verbs do not display overt morphological agreement with their arguments in LIS. However, an exception to this generalization is represented by plain verbs produced through a classifier predicate in transitive constructions whereby the hand configuration is determined by the theme argument, thus showing overt agreement with the object. An example is provided below.

L-U-C-A SANDWICH CL(flat open 5): 'eat_sandwich'
'Luca eats a sandwich.'

2.1.2.3.2 Non-manual verb agreement

Another way to mark agreement in LIS is through non-manual markers. Non-manual agreement in LIS is optional and may be realized with all verb classes.

The two non-manual articulators involved are head tilt (ht) and eye gaze (eg). Commonly, the head tilts toward the location of the subject argument and eye gaze is directed towards the location of the object argument simultaneously to the production of the verbal sign. The two non-manual markers may be produced singularly, as in (a), or together, as in (b). With intransitive predicates, either one of the two non-manual articulators can mark subject agreement (c).

$$\overline{\text{ht: a}}$$
a. L-U-C-A$_a$ P-A-O-L-O$_b$ $_a$HATE$_b$
'Luca hates Paolo.'

$$\overline{\text{ht: a}}$$
$$\overline{\text{eg: b}}$$
b. L-U-C-A$_a$ P-A-O-L-O$_b$ $_a$HATE$_b$
'Luca hates Paolo.'

$$\overline{\text{eg}}$$
c. BOOK CL: 'fall_down'
'The book falls down.'

2.1.2.4 Classifier handshape

The relevance of classifier handshape for clause structure in LIS is twofold. First, it can encode agreement with the direct object of a transitive and ditransitive predicate or with the subject of an intransitive predicate by representing some visually salient property of the argument [SYNTAX 2.1.2.3.1]. Second, it is able to determine the argument structure of a predicate according to the following specification [SYNTAX 2.1.1.5]: i) classifiers with a handling hand configuration select for transitive predicates, ii) classifiers with an entity hand configuration select for intransitive unaccusative predicates, and iii) classifiers with a bodypart hand configuration select for intransive unergative predicates. In this respect, by morphologically marking the thematic role of arguments, LIS seems to behave as ergative languages.

2.1.2.5 Argument clauses

Arguments in LIS may also be expressed through full clauses encoding the syntactic role of subject [SYNTAX 3.3.1] and object [SYNTAX 3.3.2].

The following sentence is an example of a subject dependent clause.

IMPORTANT IX$_2$ SAY$_1$
'It is important that you tell me.'

The following is an example of a LIS sentence where a subordinate clause serves as an object.

P-I-E-R-O CONTRACT PUT_SIGNATURE DONE G-I-A-N-N-I KNOW
'Gianni knows that Piero signed the contract.'

2.1.3 Argument structure changes

This section describes different grammatical operations that can affect the argument structure of a predicate and thus alter its valency either by increasing it or by reducing it.

In [SYNTAX 2.1.3.1] the basic argument structure of a verb is increased to include an extra argument, while in the remaining of the section other constructions altering the argument structure of the predicate are considered, as passive constructions [SYNTAX 2.1.3.2], predicates expressing reflexivity [SYNTAX 2.1.3.3] and reciprocity [SYNTAX 2.1.3.4].

2.1.3.1 Extension of argument structures

The basic argument structure of a verb can be extended to include an extra argument expressing a non-obligatory thematic role. In the sentence below, an extra beneficiary argument, DOG POSS(G)$_1$, is added to the sentence yielding the word order subject-beneficiary-object-verb.

IX$_1$ DOG POSS(G)$_1$ IX COLLAR IX$_1$ BUY
'I buy a collar for my dog.'

An extra argument specifying the subject matter can be added, as in the example below, where it is specified what the topic of the talk is, namely, the school for the Deaf 'Magarotto'.

YESTERDAY SCHOOL MAGAROTTO IX$_1$ FRIEND TALK DONE
'Yesterday a friend of mine and I talked about the school Magarotto.'

In both sentences, no specific marker introduces the extra argument.

Another case of argument extension is called causativisation, by which a causer is added to the structure, resulting in a complex event having a causer and a caused event. An example is provided by the following sentence, where FATHER is the causer of the event of breaking a fishing rod. The causer is encoded lexically by the handling classifier, which incorporates the change of state of the object.

FATHER POSS(G)$_1$ FISHING_ROD IX$_3$ CL(closed 5): 'break_fishing_rod'
'My father broke the fishing rod by snapping it.'

The resultant state yielded by the complex event may require further representation by an additional predicate, as in the example below, where another classifier (SASS) specifies the resultant state of the teared piece of paper.

CHILD$_a$ PAPER IX$_{3a}$ CL(F): 'tear_paper' SASS(flat open L): 'long_thin_object'
'The child shreds a piece of paper.'

Finally, LIS has a specialized causative auxiliary, GIVE_AUX, to express a change of psychological state [SYNTAX 2.1.1.3], as shown in the examples below.

  a. PE$_a$ $_a$GIVE$_1$_AUX ANGER
'That makes me angry.'

  b. SUMMER GIVE$_1$_AUX GLAD
'Summer makes me happy.'

2.1.3.2 Passive

Passivisation is considered to be a sub-type of clausal change, as the theme/patient argument of a transitive or ditransitive verb is promoted to the subject position, the agent argument is absent or optionally expressed, and the verb undergoes some modification. The sentence 'the woman brushes the horse' is an English active sentence, while 'the horse is brushed (by the woman)' is a passive construction.

When using a passive sentence, the speaker/signer foregrounds the patient argument of the predication that occupies the subject position.

The functional equivalent of a passive sentence in LIS takes on different features according to the verb class of the sentence predicate.

With transitive agreement verbs with two points of articulation [LEXICON 3.2.2], the theme is produced in subject position, the verb starts being articulated in a point of the neutral space not previously associated with an (agent) argument to end on the signer's body. Role shift [SYNTAX 3.3.3], whereby the signer adopts the perspective of a referent, here the theme, is realised. The following sentences are functionally equivalent to passives.

$$\overline{\quad\text{rs: 1a}\quad}$$

a. WOMAN$_{a\ 3b}$SLAP$_{1a}$

'The girl is slapped.'

$$\overline{\quad\text{rs: 1a}\quad}$$

b. CAT$_{a\ 3b}$PUNCH$_{1a}$

'The cat is punched.'

Optionally, the agent argument is produced after the theme subject, as shown in the example below.

$$\overline{\text{bl: a}}\quad\overline{\text{eg:b}}\quad\overline{\quad\text{rs: 1a}\quad}$$

CAT   DOG $_{3b}$PUNCH$_{1a}$

'The cat is punched by the dog.'

The active counterparts of the previous sentences are reported in (a) and (b) below.

$$\overline{\text{bl: a}}\quad\overline{\text{bl: b}}$$

a. MAN WOMAN $_{3a}$SLAP++$_{3b}$

'The man slapped the girl.'

$$\overline{\text{bl: a}}\quad\overline{\text{ht: b}}$$

b. DOG   CAT $_{3a}$PUNCH$_{3b}$

'The dog punched the cat.'

Backward verbs [LEXICON 3.2.2] fall into this verb class. To express a passive meaning, a backward verb starts being articulated from the position of the theme to a position in the neutral space not associated with a previously introduced referent. A peculiarity of these types of sentences seems to be the lack of role shift, as shown in the following example.

a. GIULIA$_{a}$ PARTY$_{b}$ $_{a}$INVITE$_{b}$

'Giulia has been invited to the party.'

b. COMPUTER$_{a}$ $_{a}$TAKE$_{b}$

'The computer has been taken.'

If the sentence contains a classifier predicate [MORPHOLOGY 5.1], the strategy to express a passive meaning is similar to the one observed with agreement verbs with two points of articulation: the theme argument is produced in subject position, the agent argument is often

absent and role shift is observed only with animate theme arguments. The classifier predicate starts in a position of the neutral space not associated with a previously introduced agent argument and it ends on the signer's body. A final remark is the morphological reduction of the verb that is produced with a shorter movement.

a. $\overline{\text{DUCK}_{a\ 3b}\text{CL(unspread curved open 5): 'strangle'}_{1a}}^{\text{rs: 1a}}$

'The duck is strangled.'

b. $\overline{\text{CAT}_{a\ 3b}\text{CL(closed G): 'hit\_with\_hammer'}++_{1a}}^{\text{rs: 1a}}$

'The cat is hit with the hammer repeatedly.'

Again, the agent argument may be optionally expressed. When it is, it follows the theme subject:

$\overline{\text{CAT}_a\ \text{MOUSE}_b}^{\text{ht: a}}$ $\overline{_{3b}\text{CL(closed G): 'hit\_with\_hammer'}++_{1a}}^{\text{rs: 1a}}$

'The cat is hit with the hammer by the mouse repeatedly.'

The active counterparts of the above sentences are provided below.

a. $\overline{\text{MAN}}^{\text{bl: a}}\ \overline{\text{DUCK}}^{\text{bl: b}}$ CL(closed 5): 'strangle'$_{3b}$

'The man strangles the duck.'

b. $\overline{\text{MOUSE}_a}^{\text{bl: a}}\ \overline{\text{CAT}}^{\text{bl: b}}$ $_{3a}$CL(closed G): 'hit_with_hammer'$++_{3b}$

'The mouse hits the cat with the hammer repeatedly.'

If the sentence contains an agreement verb with one point of articulation [LEXICON 3.2.2], the passive meaning cannot be expressed via role shift, regardless of the animate/ inanimate feature of the theme argument.

Within this verb class, the predicate spatially agrees with the theme argument occupying the subject position. No explicit nor impersonal [PRAGMATICS 1.5] agent argument is present.

a. HOUSE$_a$ SELL$_a$ DONE

'The house has been sold.'

b. THIEF$_a$ IX$_a$ ARREST$_a$

'The thief has been arrested.'

The following examples displaying agreement verbs with one point of articulation show the signer's answer to the question: 'what happened to the house?' (a) and 'what happened to the chocolate cream?' (b).

a. HOUSE$_a$ WIND COLLAPSE$_a$
'The house has been destroyed by the wind.'

b. CHOCOLATE CL(unspread V): 'scoop_out' CL(unspread V): 'spread'
'The chocolate cream has been scooped out and spread (on bread).'

Passive constructions with plain verbs have not been observed. This might be due to the fact that plain verbs are produced on the signer's body, therefore, the spatial strategies used to express the meaning of a passive sentence cannot be adopted.

2.1.3.3 Reflexivity

The argument structure of a predicate can also be modified through reflexivity [LEXICON 3.7.4]. When a predicate expresses reflexivity, the two arguments of the same predicate are coreferent.

LIS expresses reflexivity through the realisation of the verb on the body of the signer, regardless of the person feature (third person in (a), first person in (b) and (c)) and of the verb class, plain verbs (a) and agreeing verbs (b), (c).

a. PIETRO$_a$ IX$_a$ WASH
'Pietro washes himself.'

b. PIETRO$_a$ $_a$KILL$_1$
'Pietro killed himself.'

c. UNIVERSITY COURSE++ MANY. IX$_1$ ASK++$_1$ IX$_1$ FIT WHICH
'There are many courses at university. I keep asking myself which is more fitting (for me).'

Another way to express reflexivity is through the use of reflexive pronouns [LEXICON 3.7.4]. Two types of reflexive pronouns are available: i) the pronoun IX_PERSON directed toward the locus in space associated with the referent involved in the reflexive predicate (a) and ii) a reflexive pronoun articulated on the signer's chest (b).

a. WOMAN IX$_a$ PAINT IX$_{3a}$_PERSON

'The woman is painting herself.'

b. IX$_a$ WOMAN PAINT SELF

'The woman is painting herself.'

2.1.3.4 Reciprocity

In a reciprocal relation a plural argument is coreferential with another argument in the same predication and the arguments are both agents and undergoers of the action (see also [LEXICON 3.7.4]; [MORPHOLOGY 3.1.3]).

When a plain verb expresses a reciprocal relation, the object position is left empty and the predicate does not show any change in its realisation, as shown in (a) and (b) below.

a. IX$_{1+3}$ LOVE

'She and I love each other.'

b. A-N-N-A L-U-C-A IX$_{3a+3b}$ HUG

'Anna and Luca hug each other.'

The plain verb may also employ a reciprocal pronoun [LEXICON 3.7.4] glossed EACH_OTHER: a two-handed sign produced with curved open L handshape moving back-and-forth in the neutral space between the two referents of the reciprocal relation. The following example illustrates the use of the reciprocal pronoun.

IX$_{1+2}$ UNDERSTAND EACH_OTHER

'You and I understand each other.'

With one-handed agreeing verbs, the reciprocal relation between the arguments is expressed by simultaneously reduplicating the verbal sign, which is produced as a two-handed sign, with the hands displaying the same handshape and movement, but opposite orientation and direction, as in the following examples.

a. dom: IX$_{1+3}$ $_3$LOOK_AT$_1$
   n-dom: $_1$LOOK_AT$_3$

'She and I look at each other.'

b. dom: IX$_{3a+3b}$ $_a$KISS$_b$
   n-dom: $_b$KISS$_a$

'They kiss each other.'

With two-handed agreeing verbs, the reciprocal relation between the arguments may be expressed by simultaneously reduplicating the verbal sign which is produced as a one-handed sign to allow the simultaneous realisation of the reciprocal relation, as shown below. In this case, the two-handed verbal sign has the same handshape, but the hands move toward opposite directions, as shown below:

a. dom: EVERY_YEAR CHRISTMAS IX_{3a+3b} $_a DONATE_b$

   n-dom: CHRISTMAS $_b DONATE_a$

'Every year at Christmas they give each other a present.'

b. dom: IX_{3a+3b} $_a HELP_b$

   n-dom: $_b HELP_a$

'They help each other.'

An alternative strategy to express reciprocity with two-handed agreement verbs is the sequential reduplication of the verb moving from the position in space associated with referent A towards the position in space associated with referent B and vice versa. The following examples show this possibility.

a. EVERY_YEAR CHRISTMAS IX_{3a+3b} $_a DONATE_b$ $_b DONATE_a$

'Every year at Christmas they give each other a present.'

b. IX_{3a+3b} $_a HELP_b$ $_b HELP_a$

'They help each other.'

There are verbs, like LOVE, that are produced on the signer's body as a starting point of articulation to move towards the neutral space as a point of arrival. In the first person plural, the verb LOVE, a two-handed sign, may also express reciprocity through what is called sequential reduplication: the sign is first articulated from the signer's body to the object of predication, and then back, as shown in the example below.

IX_{1+3} $_1 LOVE_3$ $_3 LOVE_1$

'She and I love each other.'

LIS also has intrinsically reciprocal verbs, such as MEET (a) and ARGUE (b). These verbs do not change their way of articulation to express a reciprocal relation.

a. MORNING IX$_{1+3}$ MEET
'This morning he and I met.'

b. IX$_{3pl}$^THREE ARGUE++
'The three of them always discuss with each other.'

2.1.4 Non-verbal predication

This section is devoted to describe constructions lacking an overt predicate. In LIS, lack of an overt predicate is found in copular constructions [SYNTAX 2.1.4.1] and secondary predication [SYNTAX 2.1.4.2].

2.1.4.1 Copular constructions

A case of non-verbal predication is the possibility for an adjectival phrase to predicate something of an argument. In the example below, the property of '(being) nice' is predicated of the argument 'Pietro'.

PIETRO NICE
'Pietro is nice.'

In LIS, copular constructions lack the presence of a copula, as opposed to the English translation of the sentence above.

A copular sentence, as the one above, is predicative when it ascribes a property to an argument. A copular sentence may also be specificational, when it specifies something of an argument. In the following sentence, the copular sentence specifies who the best student is.

STUDENT BEST A-D-A
'The best student is Ada.'

There are cases in which the distinction between a predicational and a specificational reading of the copular sentence is difficult to establish. This is the case of the following English sentence: 'His lunch is food for the dog'. In the predicational reading, this sentence means 'his lunch serves as food for the dog'. In LIS, this interpretation corresponds to the following sentence.

LUNCH FOOD POSS(G)$_3$ TYPE DOG
'His lunch is like food for the dog.'

In the specificational reading, the English sentence above means 'he eats food for the dog for his lunch'. In LIS, this interpretation has a different output, as shown in the sentence below.

LUNCH IX$_{3a}$ FOOD POSS(G)$_{3a}$ PE$_{3a}$ DOG POSS(5)$_{3b}$
'His lunch is the food for dogs.'

Another type of copular sentences is the locative sentence. In the following copular sentence, what is predicated of the argument 'Paride' concerns his location in space. Again, no copula surfaces.

PARIDE SCHOOL
'Paride is at school.'

2.1.4.2 Secondary predication

Another instance of non-verbal predication is secondary predication. A secondary predicate is an expression that attributes a property to the subject (or to another argument of the verb) but it is not the main predicate of the clause.

In the following sentences, the secondary predicate is represented by the signs TIRED (a) and NAKED (b).

a. CHILD++ HOUSE COME_BACK TIRED
'The children returned home tired.'

b. SUMMER PAST L-U-C-A NAKED STROLL
'Last summer Luca was walking naked.'

2.1.5 Existentials and possessives

While existentials assert the existence of some entity, possessives denote the possessive relation between the possessor and the object of possession. The two constructions are related in LIS. The reader can find a description of possessives and existentials in this section.

2.1.5.1 Possessives

In LIS, predicative possession can be expressed with the same sign used to express existential constructions [SYNTAX 2.1.5.2], namely the sign glossed EXIST, as shown in the sentences below. The sign EXIST is accompanied by repeated head nods (hn), protruding lips (lp) and, optionally, lowered eyebrow (le). The word order is possessor – possessum – EXIST.

$$\frac{\frac{\overline{\quad le \quad}}{\overline{\quad lp \quad}}}{\overline{\quad hn \quad}}$$

a. IX$_1$ MOTORBIKE EXIST

'I have a motorbike.'

$$\frac{\overline{\quad lp \quad}}{\overline{\quad hn \quad}}$$

b. A-N-N-A PERU IX(loc) HOUSE EXIST

'Anna has a house in Peru.'

$$\frac{\overline{\quad lp \quad}}{\overline{\quad hn \quad}}$$

c. IX$_2$ TEMPERATURE EXIST

'You have temperature.'

$$\overline{\quad y/n \quad}$$

d. IX$_2$ TIME FREE EXIST IX$_2$

'Do you have some free time?'

$$\frac{\overline{\quad lp \quad}}{\overline{\quad hn \quad}}$$

e. FATHER POSS(G)$_1$ FAMILY OTHER EXIST

'My father has another family.'

The verb EXIST is not obligatory in predicative possessives in LIS. It is often dropped, as shown in the examples below. In the absence of the sign EXIST, the non-manual markers head nod, protruding lips, and, optionally, lowered eyebrows are present over the last sign of the sentence, which, in the following sentences coincides with the possessum (except in predicative possessive polar questions (d) where the interrogative non-manual markers override the non-manual markers present in predicative possessive constructions).

<u>le</u>
<u>lp</u>
<u>hn</u>
a. IX$_1$ MOTORBIKE

'I have a motorbike.'

<u>lp</u>
<u>hn</u>
b. A-N-N-A PERU IX(loc) HOUSE

'Anna has a house in Peru.'

<u>lp</u>
<u>hn</u>
c. IX$_2$ TEMPERATURE

'You have temperature.'

<u>y/n</u>
d. IX$_2$ TIME FREE IX$_2$

'Do you have some free time?'

The negative counterpart of the sign EXIST is the suppletive sign EXIST. NOT [MORPHOLOGY 3.5.2], accompanied by a head shake and furrowed eyebrows (neg), as in the example below. The sign EXIST.NOT occurs at the end of the sentence after the possessor and the possessum.

<u>neg</u>
M-A-R-C-O IX$_a$ CAR EXIST.NOT

'Marco doesn't have a car.'

A possessive predication can also be negated with the negative sign NOT [SYNTAX 1.5.1.1.1], also accompanied by the same non-manuals marking negation in LIS, as shown in the following example. The negative sign NOT is produced in sentence-final position.

<u>neg</u>
M-A-R-C-O IX$_3$ CAR NOT

'Marco doesn't have a car.'

2.1.5.2 Existentials

Existential constructions in LIS can be produced with the verb EXIST in sentence-final position accompanied by repeated head nods (hn), protruding lips (lp) and, optionally, lowered eyebrows (le).

$$\frac{\frac{\frac{\text{le}}{\text{lp}}}{\text{hn}}}{}$$

a. GARDEN DOG EXIST

'There is a dog in the garden.'

$$\frac{\frac{\frac{\text{le}}{\text{lp}}}{\text{hn}}}{}$$

b. MILK EXIST

'There is some milk.'

$$\frac{\frac{\frac{\text{le}}{\text{lp}}}{\text{hn}}}{}$$

c. MOUNTAIN SNOW EXIST

'There is snow on the mountain.'

The sign EXIST can also be dropped. In this case, the same non-manual markers that are usually produced over the sign EXIST accompany the last sign of the sentence and are often prolonged after it, as shown in the following examples.

$$\frac{\frac{\frac{\text{le}}{\text{lp}}}{\text{hn}}}{}$$

a. GARDEN DOG

'There is a dog in the garden.'

$$\frac{\frac{\frac{\text{le}}{\text{lp}}}{\text{hn}}}{}$$

b. MILK

'There is some milk.'

$$\frac{\overline{\quad\text{lp}\quad}}{\overline{\quad\text{hn}\quad}}$$

c. MOUNTAIN SNOW

'There is snow on the mountain.'

The same strategies employed to express existence are also used in possessive constructions [SYNTAX 2.1.5.1].

$$\frac{\overline{\quad\text{lp}\quad}}{\overline{\quad\text{hn}\quad}}$$

a. L-A-U-R-A IX$_a$ CHILD ONE EXIST

'Laura has one child.'

$$\frac{\overline{\quad\text{lp}\quad}}{\overline{\quad\text{hn}\quad}}$$

b. L-A-U-R-A IX$_a$ CHILD ONE

'Laura has one child.'

Since LIS uses the same strategies to mark possession and existence, the following sentence can receive both interpretations, namely, it corresponds to both an existential and a possessive sentence.

OFFICE POSS(G)$_1$ WINDOW ONE EXIST

'There is a window in my office.'

'My office has a window.'

Different unrelated negative signs can be used to express negative existentials: NOT (a), NOTHING (b), NOBODY (c). As in possessive constructions, the suppletive sign of EXIST, EXIST.NOT, is also employed (d).

The same non-manuals marking negative sentences [SYNTAX 1.5.2], namely, furrowed eyebrows and a side-to-side headshake (glossed 'neg'), spread over the negative existential sentence or only over the negative sign.

$$\overline{\quad\text{neg}\quad}$$

a. PROBLEM NOT

'There is no problem.'

$$\overline{\quad\quad\quad\quad\text{neg}\quad}$$

b. PROBLEM NOTHING

'There is no problem.'

$$\overline{\text{neg}}$$
c. PROBLEM NOBODY
'There is no problem.'

$$\overline{\text{neg}}$$
d. PROBLEM EXIST. NOT
'There is no problem.'

2.2 Grammatical functions

Grammatical functions, such as subject and object, should not be confused with thematic roles, such as agent or patient, which convey semantic functions instead. It is true that syntactic grammatical functions systematically relate to semantic roles. For example, in active clauses where the verb has an agent and a patient, the agent will always be the subject and the patient the object, as shown in the example below, where the grammatical subject GIANNI also overlaps with the semantic role of the agent of the sentence, and conversely the grammatical object NAIL overlaps with the semantic function of the patient.

GIANNI NAIL CL(closed G): 'hit_with_hammer'++
'Gianni hammers a nail.'

However, the combination of grammatical and semantic functions is not always univocal. Indeed, there are many cases where the syntactic subject overlaps with other semantic roles, as for example in the sentence below where the grammatical subject (WIN^PERSON) overlaps with the semantic role of the recipient:

WIN^PERSON$_a$ PRIZE CL(closed 5): 'give_prize'$_{3a}$
'The winner received an award.'

LIS is a language with a relatively flexible word order [SYNTAX 2.3] and thus distinguishing grammatical functions can be more difficult than in languages which display a more fixed word order. Moreover, morphological case markers and agreement strategies [LEXICON 3.2.2] are not obligatory will all verbs in LIS. Still, it seems that grammatical functions can be distinguished in LIS through verb agreement.

2.2.1 Subject and object identification

Despite the complexities, some strategies exist to distinguish between the syntactic functions of subjects and objects. Firstly, the position of a word in a sentence can help in the subject-object identification [SYNTAX 2.2.1.1]; anaphoric references can be used as a diagnostic test in the aforementioned distinction [SYNTAX 2.2.1.2]; in some cases, pronoun copying strategies can also function as tools in the distinction of syntactic roles [SYNTAX 2.2.1.3]; and finally, null pronouns [SYNTAX 2.2.1.4] can be helpful diagnostic tools in identifying these two grammatical functions.

2.2.1.1 Specific position(s) for subject and object

Despite the relatively flexible word order position in LIS, basic word order represents a useful tool in the analysis of subject and object grammatical functions. The unmarked word order in the varieties of LIS under consideration is SOV, namely subject-object-verb [SYNTAX 2.3].

However, variations in the basic word order are possible in LIS, for example in a topicalisation the object can be moved in front of the subject OSV [PRAGMATICS 4.2]. In this case, the topicalised constituent is more likely to be accompanied by specific non-manuals, such as raised eyebrows, squint eyes and head forward, and is more likely to be separated from the remaining part of the sentence by prosodic markers as head nod and an eye blink (glossed 'top' in the example below).

$\underline{\quad\text{top}\quad}$
$\text{HOUSE}_a \text{ GIANNI}_b \text{ }_{3b}\text{BUY}_{3a}$
'The house, Gianni buys it.'

Furthermore, the topicalisation of the object demonstrates that the grammatical functions of subject and object can also be distinguished from the pragmatic relationships like topic or focus. Although it is common for the subject to be the topic, the previous example shows that the object (HOUSE) can be the topic of the sentence.

If the subject is a pronoun, it may appear in postverbal position [LEXICON 3.7]; [SYNTAX 2.2.1.3], as shown in the example below displaying an OVS order with a topicalised object.

$\underline{\quad\text{top}\quad}$
$\text{BOOK}_{a}\text{ }_{3a}\text{BUY}_{3b} \text{ IX}_{3b}$
'The book, he bought (it).'

Agreement verbs and aspectual marking, plus the use of classifiers, may permit to place the object before the subject, without triggering any specific non-manual markers [LEXICON 3.3.2]; [MORPHOLOGY 3.3].

Subject and object are not only identifiable by their position in basic word order, they also differ hierarchically, namely the object forms a unit with the verb (called verb phrase or VP) that excludes the subject. Evidence that verb plus object form a unit that excludes the subject comes from several syntactic phenomena. One of these phenomena is again topicalization, which proves that the entire VP can be displaced to a position in front of the subject, as shown in the example below.

          <u>   top   </u>
BOOK$_a$ READ$_a$ GIANNI$_b$ LIKE
'Reading the book, Gianni likes it.'

A further piece of evidence for VP being a constituent comes from negation. In LIS, negation is generally produced through negative manual signs and non-manual markers spreading over them [SYNTAX 3.5]. However, in some areas (especially in the central and south regions of Italy) it is possible to negate a sentence only through the negative non-manual markers. In the absence of a manual negative marker, the negative non-manuals (headshake) must spread over the entire VP composed of verb and object, and not only over a subpart of it. This indicates that the argument over which the neg non-manuals spread is the object. The example below demonstrates this condition.

          <u>   neg   </u>
GIANNI CHOCOLATE EAT
'Gianni does not eat chocolate.'

The indivisibility of verb and object is also attested in the case of the insertion of adverbs. Although these adverbs have quite flexible positions, they cannot break up the VP constituent. And they can only appear before or after it, as shown in (a) and (b) below.

a. GIANNI YESTERDAY APPLE EAT
'Gianni, yesterday, ate an apple.'

b. GIANNI APPLE EAT YESTERDAY
'Gianni ate an apple, yesterday.'

2.2.1.2 Special anaphoric properties for subject and object

Anaphors are linguistic deficient entities which need to refer to a previously introduced category [PRAGMATICS 2]. A reflexive pronoun [LEXICON 3.7.4] is a type of anaphor, which must have an antecedent in its own clause. This holds in LIS and in many other signed and spoken languages. In the example below, the reflexive pronoun SELF refers to the subject BOB.

> BOB SELF LIKE
> 'Bob likes himself.'

The reflexive pronoun and its antecedent must be in the same clause. In example below, the antecedent of the reflexive pronoun SELF is MARIA, the subject of the verb LOVE within the same (object) clause, not GIANNI which is the subject of the verb SAY within the main clause.

> GIANNI$_a$ SAY MARIA$_b$ IX$_b$ LOVE ONLY SELF
> 'Gianni said that Maria loves only himself.'

Furthermore, a reflexive object can refer to a previous subject (as in the example below), but not the other way around.

> IX$_3$ SELF LIKE
> 'He likes himself.'

The opposite pattern is shown by personal pronouns. In LIS, a pronoun in object position cannot take the subject of its own clause as its antecedent [PRAGMATICS 2]. In the example below the pronominal object IX$_3$ cannot refer to MARIA, but it must refer to another person.

> MARIA$_a$ CRITICISE IX$_{3b}$
> 'Maria criticises her/him.'

2.2.1.3 Strategies of pronoun copying for subject and object

In LIS, a third strategy can be used to distinguish the subject from the object, namely pronoun copy [LEXICON 3.7.2]. In LIS a pronoun in sentence final position may refer back to the subject (especially if the subject precedes the object).

> CHILD$_a$ PIZZA EAT DONE IX$_{3a}$
> 'The child ate the pizza, she.'

The pronoun copying the subject can also be accompanied by non-manuals, but it does not need to. However, a light movement of the body appears, opposite to the signing space where the subject has been located.

The subject which is copied by the sentence final pronoun can be a full noun phrase, as in the example above, or a pronoun as shown in (a) below. The example in (b) below is different because there is no overt subject in the initial position, so no copying in the literal sense. However, if we consider that LIS admits null subjects [SYNTAX 2.2.1.4; 2.4.1], we can hypothesise that the pronoun in final position in (b) is a copy of the null subject.

a. IX$_3$ PIZZA EAT DONE IX$_3$
'He has eaten the pizza, he.'

b. PIZZA WANT IX$_3$
'He likes pizza.'

Although pronoun copying seems to mostly refer to subjects, in some special sentences the object can be copied as well. This can happen if the object is fronted, as in the example below.

top
_____
CHOCOLATE$_a$ GIANNI$_{3b}$ $_{3b}$HATE$_{3a}$ IX$_{3a}$
'Chocolate, Gianni hates it.'

This syntactic flexibility allows us to suppose that copy pronouns pragmatically refer to topicalised elements [PRAGMATICS 4.2] in LIS, regardless of their syntactic role. This diagnostic should therefore be applied with caution if used to detect the syntactic function of an element in the sentence.

2.2.1.4 Null arguments for subject and object

The fourth strategy for distinguishing syntactical subjects and objects in LIS is the analysis of null arguments [SYNTAX 2.1.2]. Very commonly in LIS, subject and object can be omitted thanks to the context, which plays an important role in allowing arguments to be unexpressed. The example below shows one such case, where both subject and object can be omitted.

Context: A person known by the signer is mentioned in the discourse.

BE_FAMILIAR   🖐

'(I) know (her).'

In LIS, the subject is more easily omitted than object. Especially when subjects are also topics and are easily accessible to the interlocutor, they seem likely to be omitted. Moreover, the distribution of null arguments in LIS seem to correlate with many other linguistic factors, such as the presence of agreement verbs and verb classifiers. In the presence of these elements, arguments can easily be left unexpressed in LIS. This happens in the example below, where the use of the classifier V for the predicative classifier meaning '(to) walk' is automatically interpreted as referred to GIANNI, not to his dog. So, the name GIANNI does not need to be repeated.

$$\overline{\qquad\qquad}\text{rs: dog}$$

GIANNI HOUSE ARRIVE. DOG CL(G): 'wag_tail' CL(V): 'walk' STROKE

🖐

'Gianni arrives at home. His dog wags his tail, so he (Gianni) walks toward him and pets him.'

2.2.2 Other grammatical functions: arguments vs. adjunct

To be developed.

2.2.3 Types of adjuncts

To be developed.

2.3 Word order

Studies on word order concentrate on the order of the constituents bearing the grammatical function of subject and object with respect to the verb.

This section is devoted to describing not only the order of subject, verb and object, but also adverbial expressions and functional signs like temporal and aspectual auxiliaries, agreement markers, modal verbs, negation signs and subordinating conjunctions.

2.3.1 Identification of the basic order of constituents in the main declarative clause

The reader will find a description of the unmarked order of subject, object and verb in LIS declarative clauses. We will also describe the position of other crucial elements appearing in LIS clauses, such as auxiliaries, modals, negation, adverbs and adjuncts.

2.3.1.1 Order of subject, object and verb

In order to observe the most natural order of subject, object and verb in LIS main declarative clauses, we need to look at sentences with a transitive predicate. The most natural order of constituents in LIS clauses is: subject, encoding the agent argument, object, encoding the theme argument, and verb. The order SOV in LIS holds with both plain and agreement verbs, as shown in the following (a) and (b) examples respectively.

a. CAT RED MEAT EAT
'The red cat eats the meat.'

b. DAVIDE$_a$ MARIA$_b$ $_a$HELP$_b$
'Davide helps Maria.'

As expected, the order between the subject and verb in sentences with an intransitive predicate is SV, regardless of the thematic role of the subject: an agent (a), as with unergative verbs [SYNTAX 2.1.1.2], or a theme (b), as with unaccusative verbs [SYNTAX 2.1.1.2].

a. LUCA RUN
'Luca runs.'

b. LUCA GO_OUT
'Luca exits.'

In LIS, pronominal subjects and overt noun phrase subjects occupy the same position in the clause.

a. CAT RED MEAT EAT
'The red cat eats meat.'

b. IX$_{3pl}$ MEAT EAT
'They eat meat.'

Next to the SOV order, the SVO order is accepted in sentences that possess a structurally heavy object, like in the following examples.

a. YESTERDAY IX$_1$ MEET MAN IX$_a$ HAT CL(L): 'big_hat' PLUS COAT COLOUR GREY
'Yesterday I met a man with a big hat and a grey coat.'

b. YESTERDAY IX$_1$ MEET WOMAN FAT$_a$ MAN TALL$_b$ CHILD$_c$ CAPRICIOUS$_c$

'Yesterday I met a robust woman, a tall man, and a capricious child.'

c. YESTERDAY IX$_1$ EAT PIZZA CL(5): 'all_pizza' CHEESE PLUS MUSH-ROOM
'Yesterday I ate a pizza with cheese and mushrooms.'

We should finally point out that, although LIS is a relatively consistent language, as far as word order is concerned, some variation in the order of the main constituents in LIS clauses has been observed. The sociolinguistic factor influencing the order of subject, object and verb in LIS is the geographical origin of signers: while signers from Northern Italy seem to slightly prefer the VO order, signers living in the Central and Southern Italy seem to prefer the OV order.

2.3.1.2 Order of auxiliaries (i.e. agreement, tense and aspectual markers) with respect to the verb

In LIS, morphosyntactic features of agreement, tense and aspect can be conveyed through both manual and non-manual markers occurring with the lexical verb [LEXICON 3.3].

As for agreement markers, plain verbs can realize agreement with their arguments through an agreement marker that can be considered an auxiliary. The agreement marker AUX [LEXICON 3.3.4] follows the verb.

GIANNI$_a$ PIETRO$_b$ BE_FAMILIAR $_a$AUX$_b$
'Gianni knows Pietro.' (based on Bertone 2011, 159)

Another auxiliary is a causative auxiliary, GIVE_AUX [LEXICON 3.3.4] used for causative psychological predicates with a sign expressing a psychological state, like fear. When the experiencer object (first person singular in the example below) is not overtly expressed, the causative auxiliary GIVE_AUX follows the subject.

EARTHQUAKE GIVE$_1$_AUX FEAR
'Earthquakes scare me.'

When the experiencer object is expressed, the causative auxiliary GIVE_AUX may either precede (a) or follow it (b), as shown in the examples below.

a. EARTHQUAKE GIVE$_3$_AUX MARIA FEAR

b. EARTHQUAKE MARIA IX$_a$ GIVE$_{3a}$_AUX FEAR
'Earthquakes scare Maria.'

As for tense [LEXICON 3.3.1], it can be conveyed through temporal adverbials usually appearing at the beginning of the sentence.

TIME PAST GIANNI HOUSE BUY
'Some time ago Gianni bought a house.' (based on Zucchi 2009, 100)

The temporal anchoring of events may also be inferred from aspectual markers: DONE expresses a completed event (a) and TO_BE_DONE conveys a non-completed event that is likely to happen (b) [LEXICON 3.3.2]. DONE and TO_BE_DONE always follow the main verb defining the event. The sentences containing the lexical markers DONE and TO_BE_DONE favour the OV order.

a. IX$_1$ DOG CL(closed G): 'take_dog_for_a_walk' DONE
 'I took the dog out for a walk.'

b. IX$_1$ DOG CL(closed G): 'take_dog_for_a_walk' TO_BE_DONE
'I will take the dog out for a walk.'

Note that the sign DONE cannot occur with any element of negation.
   The negative counterpart of the completive aspectual marker DONE in LIS is the negative lexical sign NOT_YET ('not yet') [SYNTAX 1.5]. The sign NOT_YET includes the presupposition that the event is expected to occur in the future and occurs after the verb. An example can be seen below.

$$\overline{\qquad\text{neg}\qquad}$$
WAITER PIZZA CL(curved open L): 'bring_pizza' NOT_YET
'The waiter hasn't brought the pizza yet.'

In order to deliver the imperfective aspect [MORPHOLOGY 3.3.1], LIS employs lexical adverbials after the verb (a) and manual modifications of the verb sign, where the verb is repeated several times (b). Examples are provided below.

a. IX$_1$ COMPANY INSIDE WORK DURATION
'I've been working in the company for a long time.'

b. YESTERDAY IX$_1$ CAKE PREPARE MOMENT PE IX$_a$ CHILD$_a$ CRY++
'Yesterday while I was preparing a cake, the child was crying.'

Habitual aspect [MORPHOLOGY 3.3.1.1] is conveyed through time adverbials placed at the beginning of the sentence.

EVERY_DAY CHILD CRY
'The child cries every day.' (based on Bertone 2011, 222)

Continuative aspect is not conveyed through free markers, rather, the verbal root is modified [MORPHOLOGY 3.3.1.2]. The verb sign is articulated with a longer duration (a) or it is repeated (b), with a little difference in meaning: the longer articulation indicates that the event lasts indefinitely in time, repetition instead indicates that the event is repeated an indefinite number of times. The verb can be produced with specific non-manual markings, consisting in puffed cheeks (pc) or head-nod (hn) conveying the indefinite duration of the event.

$$\overline{\qquad\qquad \text{hn} \qquad\qquad}$$
a. G-I-A-N-N-I WINDOW LOOK$_{[prolonged]}$
'Gianni is looking out of the window.'

$$\overline{\qquad \text{pc} \qquad}$$
b. STUDY++
'(S/he) studies for an indefinite period of time.'

2.3.1.3 Order of modals with respect to the verb

LIS displays modals meaning ability (BE_ABLE), permission (CAN), obligation/necessity (MUST), and intention/volition (WANT) expressing the speaker's attitude towards the necessity or possibility of an act or event [LEXICON 3.3.3.1] and [MORPHOLOGY 3.4.1]. The natural position of modal signs in LIS is after the verb, as shown in the example (a) for CAN, (b) for MUST, (c) for WANT, and (d) for BE_ABLE.

a. DANIELE UNIVERSITY ATTEND CAN
'Daniele can attend university.'

b. TOMORROW IX$_1$ POLICE GO MUST
'Tomorrow I must go to the police.'

c. EVENING IX$_1$ PIZZA EAT WANT
'Tonight I want to eat a pizza.'

d. CHILD SKI BE_ABLE
'The child is able to ski.'

We should point out that, while the post-verbal position of the modals CAN and BE_ABLE is more rigid, the modals MUST and WANT can alternatively be produced before the verb, as shown in the examples below.

a. EVENING HISTORY IX$_1$ MUST STUDY
'I must study history tonight.'

b. YOUNG$_b$ WOMAN DRESS WHITE IX$_a$ WANT $_a$BUY$_b$
'The girl wants to buy a white dress.'

2.3.1.4 Order of negation with respect to verb, modals and auxiliaries

In a LIS sentence displaying an unmarked word order, negation follows the verb, as well as modals and aspectual markers, regardless of the type of negative element employed, such as negative particles, negative words and negative adverbials [SYNTAX 1.5.1.1].

The VO order is not accepted by signers in sentences that contain a negative sign. Here we have an example of a negative sentence displaying the SOV order.

<u>neg</u>
IX$_1$ BOOK BUY NOT
'I don't buy the book.'

The following are examples of sentences with different types of modals and negative elements.

$$\overline{\text{neg}}$$
a. HOSPITAL ACCOMPANY CAN NOBODY
'Nobody can accompany (her) to the hospital.'

$$\overline{\text{neg}}$$
b. IX$_1$ FILM IX$_1$ SEE WANT NOT
'I don't want to watch the/a film.'

$$\overline{\text{neg}}$$
c. GIANNI EXIT MUST NOT
'Gianni must not go out.'

$$\overline{\text{neg}}$$
d. GIANNI SMOKE BE_ABLE NOT
'Gianni is not allowed to smoke.'

As can be seen, negation follows the modal. When the modal incorporates the negative sign, the sign that expresses both the modal and negation is at the end of the sentence, as in the following example.

$$\overline{\text{neg}}$$
GIANNI SMOKE CAN^NOT
'Gianni cannot smoke.' (based on Geraci 2006b, 103)

Despite the fact that negative quantifiers are regularly right-dislocated, some signers do allow them to occur in preverbal position according to their argument position: in (a) the sign NOBODY is the sentence subject, therefore it occurs in subject position, in (b) the same sign is the sentence object and it appears in object position.

$$\overline{\text{neg}}$$
a. NOBODY CONTRACT PUT_SIGNATURE
'Nobody signed the contract.'
(recreated from Cecchetto, Geraci, Zucchi 2009, 287)

$$\overline{\text{neg}}$$
b. GIANNI$_a$ NOBODY$_b$ $_a$HELP$_b$
'Gianni did not help anybody.'
(Cecchetto, Geraci, Zucchi 2009, 287)

It is important to notice the spreading domain of the negative non-manual marking in the two examples above: they start being articulated when the negative quantifier is signed (in argument position)

and spread over the manual material following it.

As illustrated in [SYNTAX 2.3.1.2], the agreement marker, that can be considered an auxiliary, follows the verb.

GIANNI$_a$ PIETRO$_b$ BE_FAMILIAR $_a$AUX$_b$

'Gianni knows Pietro.'

When negating the previous sentence, our informants produce the auxiliary either before the verb (a) or after the negative sign (b).

$$\overline{\qquad\qquad\text{neg}}$$
a. GIANNI$_a$ PIETRO$_b$ $_a$AUX$_b$ BE_FAMILIAR NOT
'Gianni doesn't know Pietro.'

$$\overline{\qquad\qquad\text{neg}}$$
b. GIANNI$_a$ PIETRO$_b$ BE_FAMILIAR NOT $_a$AUX$_b$
'Gianni doesn't know Pietro.'

The sign MUST can be used both as a modal and as an aspectual marker expressing a non-completed event. In this second case, we gloss it as TO_BE_DONE and it is produced with a variant. In both cases, it follows the sentence verb.

a. IX$_1$ LEAVE MUST
'I must leave.'

b. IX$_1$ LEAVE TO_BE_DONE
'I will leave.'

When a negative sign is added, it follows the modal/tense marker.

$$\overline{\qquad\text{neg}}$$
a. IX$_1$ COME MUST NOT
'I must not come.'

$$\overline{\qquad\qquad\text{neg}}$$
b. IX$_1$ COME TO_BE_DONE NOT
'I won't come.'

2.3.1.5 Order of arguments of ditransitive verbs

LIS ditransitive verbs [SYNTAX 2.1.1.1] select for three arguments. They are syntactically realized as subject, direct object and indirect object respectively.

Ditransitive predicates in LIS are: agreement verbs with two points of articulation in the neutral space, like DONATE (a) and agreement verbs whose starting point is on the signer's body, like SAY (b).

a. PIETRO$_a$ CHILD$_b$ IX$_b$ BOOK $_a$DONATE$_b$
'The woman donates a book to the child.'

b. L-U-C-A P-A-O-L-O$_a$ LIE SAY$_a$
'Luca tells a lie to Paolo.'

2.3.1.6 Position for different types of adverbs and adjuncts

In LIS, each type of adverbs may be associated to one unmarked position.

As previously showed [SYNTAX 2.3.1.2], the unmarked position of temporal adverbs in LIS is at the beginning of the sentence, as illustrated in the following example.

TODAY DAVIDE COME
'Today Davide is coming.' (based on Lerose 2012, 336)

Adverbs of place usually follow the verb.

DAVIDE EAT OUTSIDE
'Davide eats out.' (based on Lerose 2012, 333)

As for frequency adverbs, they usually follow the verb too, as in the example:

IX$_1$ VENICE GO OFTEN
'I often go to Venice.'

The order between adverbs of place and frequency adverbs does not seem to be fixed, as shown in the following examples.

a. DAVIDE EAT NUMEROUS OUTSIDE
'Davide often eats out.'

b. DAVIDE EAT OUTSIDE NUMEROUS
'Davide often eats out.'

In place of frequency adverbial signs, as in the case of the adverbial ALWAYS, adverbial information can be alternatively expressed through the repetition of the sign for the verb:

EVENING DAVIDE GO_OUT++
'In the evening, Davide always goes out.'

Sentential adverbs can occupy different positions in the sentence without changing the meaning of the sentence itself, as can be seen in the following examples.

a. SURELY GIANNI COME
'Gianni is coming surely.' (based on Lerose 2012, 344)

b. GIANNI COME SURELY
'Gianni is coming surely.'

c. GIANNI SURELY COME
'Gianni is coming surely.'

In LIS, adverbs of manner can be produced as autonomous signs following the verb, as in (a) below, or through non-manual markers produced simultaneously to the verbal sign, as in (b).

a. SARA READ QUICKLY
'Sara reads quickly.'
(based on Lerose 2012, 327)

$$\overline{\text{blow}}$$
b. SARA BOOK READ[quickly]
'Sara quickly reads a book.' (based on Lerose 2012, 328)

Frequency adverbs precede adverbs of manner, as can be seen in the following example.

ANNA BEHAVE ALWAYS KINDLY
'Anna always behaves kindly.'

Specific non-manual markers may be added if there is a change in the order of frequency and manner adverbs, indicating that it is a marked order.

                     <u>   re   </u>
ANNA BEHAVE KINDLY ALWAYS
'Anna always behaves kindly.'

Quantitative adverbs indicate an indefinite quantity that refers to the action performed by the verb. They are preferably expressed through non-manual markers and through the alteration of the movement of the verbal sign (a), even if manual adverbial signs conveying the same meaning are available and may be used as an alternative strategy (b).

a. DAVIDE STUDY ++
'Davide studies a lot.' (based on Lerose 2012, 341)

b. DAVIDE STUDY VERY
'Davide studies a lot.'

As for adjuncts, their position in the sentence is flexible. They can be produced at the end of the clause, as shown in (a), at the beginning of the clause, as in (b), or between the subject and the object, as in (c) for the locative adjunct OFFICE INSIDE.

a. MARIO CONTRACT PUT_SIGNATURE OFFICE INSIDE
'Mario signs the contract in the office.'

b. OFFICE INSIDE MARIO CONTRACT PUT_SIGNATURE
'In the office Mario signs the contract.'

c. MARIO OFFICE INSIDE CONTRACT PUT_SIGNATURE
'Mario in the office signs the contract.'

2.3.2 Basic order of constituents in other clauses

In this section, we will briefly analyse the order of constituent in clauses that are different from declaratives.

2.3.2.1 Basic order in the different types of sentence

In LIS polar questions, the order of constituents is the same as in declarative sentences. Polar questions only differ from declaratives for the presence of specific non-manuals spreading over the whole sentence [SYNTAX 1.2.1.2]. An example of a polar question is provided below.

<p style="text-align:center">
_____ y/n
IX₂ LIS BE_FAMILIAR
</p>

'Do you know LIS?'

In LIS, *wh*-questions [SYNTAX 1.2.3], on the other hand, the argument or adjunct constituent represented by the *wh*-phrase, is produced at the end of the sentence, after the verb, aspectual marker, modals and negation, as in the following examples.

$$\text{CONTRACT PUT\_SIGNATURE } \overline{\text{WHO}}^{\text{wh}}$$

'Who signed the contract?'

The following is an example of a *wh*-question displaying a sign of negation.

$$\overline{\text{IX}_2 \text{ UNDERSTAND NOT WHAT}}^{\text{wh}}$$

'What don't you get?'

The following are three examples of *wh*-questions containing a modal sign.

a. $\overline{\text{IX}_2 \text{ BUY MUST } \text{Q}_{\text{artichoke}}}^{\text{wh}}$

'What do you have to buy?'

b. $\overline{\text{IX}_2 \text{ EAT CAN } \text{Q}_{\text{artichoke}}}^{\text{wh}}$

'What can you eat?'

c. EVENING TODAY IX$_2$ FILM SEE $\overline{\text{WANT } \text{Q}_{\text{artichoke}}}^{\text{wh}}$

'What film do you want to watch this evening?'

In the following sentence we can find an example showing the position of a *wh*-element with respect to the aspectual marker DONE.

<u>   wh</u>
IX₂ BOOK READ DONE WHICH
'Which book did you read?'

The following example shows the distribution of the *wh*-element and the aspectual marker TO_BE_DONE.

<u>   wh</u>
IX₂ TRIP TO_BE_DONE WHERE
'Where will you be travelling?'

As for exclamative sentences [SYNTAX 1.4], in LIS the order is the same that we find in declarative sentences. The only difference lies in different non-manual marking which, in the following sentence, is raised eyebrows.

<u>   re</u>
GIANNI ARRIVE
'Gianni has arrived!'

As far as imperative sentences are concerned [SYNTAX 1.3], positive imperative sentences are characterized by a specific sign, glossed PALM_UP. This sign, which can be considered a manual marker of imperative sentences, immediately follows the verb. PALM_UP can occur with many different uses within the imperative modality. In this sense, it is not a pragmatic marker of command, but a grammatical marker of the imperative verb. PALM_UP occurs in the final position of the imperative sentence.

<u>   fe</u>
₂TAKE₃ PALM_UP
'Take it!'

Just like PALM_UP, another sign occupies the postverbal position in imperative sentences: the sign MOVIMP. MOVIMP occurs in LIS imperative sentences when the addressee must move to a different position to obey a command. The signs PALM_UP and MOVIMP can never co-occur in the same imperative sentence.

<u>   fe</u>
SLEEP MOVIMP
'Go to sleep!'

In both types of imperatives, null subjects seem to be the preferred option.

There are specific non-manual markers for the various types of imperative sentences. The spreading domain of non-manual markers refers to their extension over the manual signs they co-occur with. The non-manual markers for the imperatives are not limited to the signs PALM_UP or MOVIMP (when present), but extend over the verb and its arguments.

As for negative orders, there are differences with respect to positive imperatives. Negative imperatives employ a manual sign for negation, very similar to the sign NOT used in negative sentences, but different in its movement and non-manual marking [SYNTAX 1.3.6]. In negative imperatives, the negative sign occupies a post-verbal position. Manual signs conveying the imperative, such as the PALM_UP sign or the MOVIMP sign are incompatible with negation. An example of a negative imperative is the following.

> $$\frac{\text{hs}}{\frac{\text{fe}}{\text{EAT NO}}}$$
> 'Don't eat!'

2.3.2.2 Basic order in the different types of subordinate clauses

Two types of clauses can be embedded: declarative [SYNTAX 1.1] and interrogative clauses [SYNTAX 1.2] (also called indirect questions).

A declarative sentence can be embedded under another declarative sentence. In this case, the order of the matrix clause is SVO (a) or OSV (b) [SYNTAX 3.3.2] More generally a finite object clause normally precedes or follows the matrix clause [SYNTAX 3.3.2.2].

a. GIANNI THINK MARIA CHOCOLATE BUY
'Gianni thinks Maria bought chocolate.'

b. MARIA CHOCOLATE BUY GIANNI THINK
'Gianni thinks Maria bought chocolate.'

As to subject clauses, there does not seem to be a clear preference for the initial or final position. [SYNTAX 3.3.1.1] The word order within object and subject clauses tends to remain the same as that found in declarative sentences.

Indirect questions [SYNTAX 1.2] follow the interrogative verb, both when they are polar (a), and when they are *wh*-questions (b), as can be seen in the two examples below.

$$\overline{y/n}$$

a. IX$_1$ ASK$_1$ GIANNI SICK
'I wonder whether Gianni is sick.'

$$\overline{wh}$$

b. IX$_3$ $_3$ASK$_1$ IX$_1$ BUY Q$_{artichoke}$
'He asked me what I bought.'

2.3.3 Deviations from the basic order of constituents

The reader will find a description of deviations from the basic order of constituents in [PRAGMATICS 4].

2.3.3.1 List of attested and unattested permutations
To be developed.

2.3.3.2 Non-manuals accompanying the deviations from the basic word order
To be developed.

2.3.3.3 Specific order for topicalized elements
To be developed.

2.3.3.4 Specific order for focused elements
To be developed.

2.3.3.5 Word order variations according to the different types of verbs (plain, agreeing)

The unmarked SOV order of subject, object and verb observed in [SYNTAX 2.3.1.1] is shared by both agreeing verbs (a) and plain verbs (b) in LIS.

a. IX$_1$ STORY $_1$TELL$_2$
'I tell you a story.'

b. CAT RED MEAT EAT
'The red cat eats meat.'

Although sharing the same word order, sentences with agreeing verbs and plain verbs may differ in the frequency of the SVO order. More specifically, with plain reversible verbs where both arguments may be promoted to be the sentence subject, the SVO order is also attested probably to avoid ambiguity in the interpretation of the syntactic roles of the predicate arguments, as shown in (a) and (b) below.

a. ANNA LAURA THINK
'Anna thinks of Laura.'

b. ANNA THINK LAURA
'Anna thinks of Laura.'

In the case of some ditransitive verbs, where a locative constituent is involved, the order of the arguments in the sentence can be peculiar, since the locative constituent is in pre-verbal position. An example is provided by the spatial ditransitive verb CL(flat open 5): 'put_book_on_shelf', where the locative argument follows the object and precedes the verb.

TEACHER BOOK SHELF++ CL(flat open 5): 'put_book_on_shelf' 🖐
'The teacher puts the book on one of the shelves.'

2.3.3.6 Word order variations according to the different types of predicates (reversible/irreversible)

Reversible sentences are those in which the permutation of the two arguments changes the meaning of the sentence by inverting the attribution of the semantic roles. For example, the sentence 'The woman combs the child', can be can be changed into the sentence 'The child combs the woman' through the permutation of the two noun phrases.

Irreversible sentences are those in which permutation is not possible due to the meaning of the predicate and/or the arguments. For example, in the sentence 'The man touches the mountain' such permutation is not possible due to the inanimate feature of the object 'mountain'; while in the sentence 'The man cooks the egg' the permutation of the sentence arguments is blocked by the semantics of the English verb 'cook' which typically implies a human subject and a non-human object.

If the predicate is reversible, namely the two characters can perform the action on each other, word order may be the only clue to understand who is the agent and who is the theme. If the predicate is

irreversible, word order is less crucial in determining the role of the arguments in the sentence.

While the SVO order is preferred in LIS in reversible sentences displaying plain verbs, the SOV order is preferred with irreversible predicates, or with reversible predicates when verbal inflection, the use of space and the use of classifiers, clarifies the syntactic roles of the predicate arguments. An example of a sentence displaying an irreversible verb is provided in (a), while (b) illustrates an example of a reversible sentence displaying the SVO order.

a. WOMAN MEAT EAT
'The woman eats the meat.'

b. DOG$_a$ $_a$BITE$_b$ CAT$_b$
'The dog bites the cat.'

2.4 Null arguments

A null argument consists in the omission of an argument of the verb. This phenomenon is quite frequently observed in LIS discourse. The arguments that may remain unexpressed are the subject, the object, the indirect object, and locative arguments.

To illustrate, we show below an example containing two lexical verbs, TAKE and ACCOMPANY. Both of them are spatially modified to mark their arguments: TAKE is a backward agreeing verb [LEXICON 3.2.2] showing agreement from the object to the subject, whereas ACCOMPANY is a spatial verb [LEXICON 3.2.3] showing overt agreement from one location to another. If these four arguments can be implicitly understood from the context, they may be all omitted. For instance, in previous discourse, the signer might have provided the following details: his son is very busy with all his activities, he is at school until 3 pm and at 3:30 pm he has to be at the dance hall for his hip hop class. In doing so, the signs SON, SCHOOL, and DANCE_HALL are associated with precise loci in the signing space. In the example below, the pre-established loci help the addressee retrieve the omitted arguments.

$_1$TAKE$_3$ $_a$ACCOMPANY$_b$ DONE
'(I) picked (him) up and took (him from school to the gym).'

As similarly observed in other null subject languages, meteorological predicates [SYNTAX 2.1.1.4] in LIS do not require an overt subject.

TODAY RAIN

'Today (it) rains.'

Overall, licensing of null arguments in LIS may be influenced by some linguistic and extra-linguistic factors, which will be discussed in the following sections.

2.4.1 Subject and object null arguments

LIS is a null argument language and allows both the subject and the object to remain unexpressed.

2.4.1.1 Null subjects

Null subjects in LIS may occur both with plain and agreement verbs. The example below shows the possibility to omit the subject with a plain verb, such as EAT. In this case, the addressee learnt from previous discourse that a student has studied a lot for her test, but she thinks she won't pass it. At the canteen, she feels very worried about the test and all her thought is bent on it.

EAT NEG_S NERVOUS

'(She) was too nervous to eat.'

Since it can be recovered from the previous context, the subject argument STUDENT can remain unexpressed.

The example below shows subject omission with a backward agreement verb, TAKE. According to previous context, Daniela is attending her history class, but she is not very interested in the topic.

SMARTPHONE$_a$ $_3$TAKE$_a$ SCROLL

'(Daniela) took her smartphone and scrolled the screen.'

The subject argument DANIELA can be omitted since it is salient in the discourse.

Recall that agreement in LIS can be optionally marked by non-manuals co-occurring with all verbal classes (i.e. plain, agreement, and spatial verbs). In particular, the head may tilt toward the location associated with the subject and the eye gaze may be directed toward the location associated with the object. If produced, these non-manual markers co-occur with the manual verb [SYNTAX 2.1.2.3.2]. Contrary

to what happens in other sign languages, in LIS null subjects are allowed regardless of whether agreement is marked non-manually or not. In the two examples discussed in this section, non-manual subject agreement (i.e. head tilt) is absent.

2.4.1.2 Null objects

In addition to subjects, LIS also allows objects to remain unexpressed. Null objects may appear with both plain and agreement verbs. The example below contains a transitive plain verb (FORGET) and it is uttered after a dialogue about the importance of wearing rain boots when walking in Venice with high tide.

> STUDENT FORGET
> 'The student forgot (them).'

Since the object argument (BOOT) is salient in the discourse, it can be omitted.

The possibility to omit the object with agreement verbs is exemplified below with the transitive agreement verb HELP. According to previous context, a student has a hard time focusing and learning new concepts. He is thus struggling to study for his next test.

> MARIA $_{3a}$HELP$_{3b}$
> 'Maria helps (him).'

In LIS, null objects are allowed regardless of whether agreement is marked non-manually or not. In the two examples discussed in this section, non-manual object agreement (i.e. eye-gaze) is absent.

2.4.2 Types of verbs that can license null subjects

As shown above, null subjects in LIS can occur both with plain and agreement verbs [SYNTAX 2.4.1.1]. However, according to corpus data, subjects remain unexpressed more frequently with agreement verbs than with plain verbs. This behaviour has been observed in other sign languages as well.

Moreover, null subjects are likely to occur with predicate classifiers [MORPHOLOGY 5.1]. Since the classifier handshape may provide information about the type, size, shape, movement, and location of the relevant referent, it might be easier for the addressee to retrieve the omitted referent. For example, if the signer is talking about the rela-

tionship between a friend of hers and her dog, a predicate classifier like the one shown below is automatically associated with the only salient two-legged entity, the signer's friend. Under these circumstances, the subject may be omitted.

CL(V): 'walk'
'(She) was walking.'

2.4.3 Null subjects in main clauses

In this section, we focus on subject omission in main clauses. In corpus data, it has been observed that there is a strong topicality effect on main clauses in LIS. This means that if a referent has already been introduced in the discourse and thus has become salient, it is likely that it is dropped in the following main clause [PRAGMATICS 4.2]. For example, a signer is waiting for Anna in the hall and mentions her to a colleague. In this case, Anna becomes salient in the discourse and thus holds as discourse antecedent. The colleague may produce a main clause as the one shown below leaving the subject unexpressed, as subject argument (ANNA) can be retrieved through the previous context.

GO_AWAY
'(Anna) left.'

2.4.4 Null arguments in embedded clauses

Null subjects in main clauses are mainly licensed by discourse topic. On the other hand, subject omission in embedded clauses appears to be regulated by another mechanism in that it is often licensed by sentence-mate antecedents. This means that if in the same sentence there is a co-referent DP preceding the embedded null subject, this holds as antecedent and licenses subject omission in the embedded clause. The example below shows such case.

PRESIDENT SAY VENICE$_a$ GO$_a$ TO_BE_DONE

'The president says that (he) will be going to Venice.'

The subject argument of the embedded verb GO is not expressed. However, it can be interpreted as co-referential with the sentence-mate antecedent PRESIDENT, which is the subject of the main clause.

In the example below, the embedded null subject is co-referential with the object of the main clause.

TEACHER CHILD++ FORCE GO_OUT

'The teacher forces the children to go out.'

The unexpressed subject of the embedded verb GO_OUT refers back to the object of the main clause (CHILD++). This sentence-mate antecedent thus licenses subject omission in the embedded clause.

Crucially, in both examples, the embedded null arguments can be correctly interpreted without relying on the previous context since they co-refer with an antecedent within the same sentence.

2.4.5 Pragmatic and semantic conditions licensing null arguments

As we saw in previous sections, null arguments in LIS are more frequent with agreement verbs, and they can be licensed by discourse antecedents or sentence-mate antecedents. Other possible licensors are topic phrase [PRAGMATICS 4.2] and role shift [SYNTAX 3.3.3].

If an argument is coreferential with the topic phrase produced at the beginning of the sentence, it may be dropped. Such case is exemplified below.

<u>   top   </u>   <u>ht$_a$</u>

PIZZA PE IX$_1$ THINK IX$_a$ SISTER$_a$ IX$_b$ MOTHER$_b$ SUGGEST$_{3b}$ DONE

'That pizza, I think that my sister has already suggested (it) to our mother.'

The direct object of the embedded verb SUGGEST is omitted. This argument can be inferred, as it co-refers with the topic phrase PIZZA PE.

When role shift is used in signed discourse, the referent whose perspective is adopted can be inferred from the signer's non-manuals. In the example below, both the bodypart classifier referring to the tail and the co-articulated non-manuals (i.e. tongue protru-

sion and left body lean) referring to the denoted entity facilitate the identification of the relevant referent, a dog.

               <u>   </u> rs: dog
CL(G): 'wag_tail'
'(The dog) was wagging his tail in an excited way.'

The combination of predicate classifier and role shift helps the addressee to retrieve the subject, which therefore can be omitted.

2.4.6 Referential properties of null arguments

In some particular cases, the reference of null arguments in LIS may be ambiguous. One of such cases is verb phrase ellipsis [SYNTAX 2.5]. In the example below, the second clause lacks the predicate and the object. The reference of the omitted object (i.e. the car washed by Paolo) is ambiguous as it may refer either to Pietro's car or to Paolo's car.

PIETRO$_a$ CAR POSS$_{3a}$ WATER CL(closed G): 'wash_car' IX$_b$ PAOLO
                                                      IDENTICAL

'Pietro washed his car, Paolo did too.'

The ambiguous interpretation of the null object can be resolved through the context.

2.5 Clausal ellipsis

Ellipsis refers to the omission from a clause of one or more signs whose meaning can however be recovered from the context. There are numerous distinct types of ellipsis. One type of ellipsis is the omission of the verbal arguments [SYNTAX 2.4]. However here we are concerned with omission of an entire part of the clause. Omission typically requires that the meaning of the missing part be recoverable

from a nearby clause. For this reason, ellipsis is usually observed in clauses introduced by signs like AS_WELL (a), IDENTICAL (b), YES or NOT, which indicate that what is described in a given clause is similar or different from what is described in a previous clause.

a. AS_WELL
'As well'
(recreated from Cecchetto, Checchetto, Geraci, Santoro, Zucchi 2015, 220)

b. IDENTICAL
(recreated from Cecchetto, Checchetto, Geraci, Santoro, Zucchi 2015, 220)

For example, in the following sentence the signs VASE BREAK are not repeated in the second clause to avoid a redundancy, since they have been just uttered in the first sentence.

DINING_ROOM GIANNI VASE BREAK NOT. PIETRO YES
'Gianni did not break a vase in the dining room. Pietro did.'
(recreated from Cecchetto, Checchetto, Geraci, Santoro, Zucchi 2015, 220)

The part of the clause that can be omitted can vary. For example, the following two sentences are distinguished by how big the elliptical part is. In the sentence (a) the signs DINING_ROOM, VASE and BREAK are omitted, while in the sentence (b) only the signs VASE and BREAK are omitted.

a. DINING_ROOM GIANNI VASE BREAK. MARIA IDENTICAL
'Gianni broke a vase in the dining room and Maria did so too.'
(recreated from Cecchetto, Checchetto, Geraci, Santoro, Zucchi 2015, 219)

b. DINING_ROOM GIANNI VASE BREAK. PIETRO IDENTICAL KITCHEN
'Gianni broke a vase in the dining room. Pietro did the same in the kitchen.' (recreated from Cecchetto, Checchetto, Geraci, Santoro, Zucchi 2015, 220)

Another example showing that the size of the ellipsis can vary is observed when a modal verb is present in the sentence. As shown in the next two sentences, a modal verb like OBLIGATION may optionally be omitted when the main verb and its object are omitted. In the first sentence ellipsis involves BOOK BUY OBLIGATION, while in the second sentence it involves only BOOK BUY.

a. GIANNI BOOK BUY OBLIGATION. MARIO IDENTICAL
'Gianni must buy a book. Maria too.' (recreated from Cecchetto, Checchetto, Geraci, Santoro, Zucchi 2015, 222)

b. GIANNI BOOK BUY OBLIGATION. MARIO OBLIGATION IDENTICAL
'Gianni must buy a book. Maria must also.' (recreated from Cecchetto, Checchetto, Geraci, Santoro, Zucchi 2015, 222)

Ellipsis seems to be relatively independent from the type of predicate that is omitted. In the example considered so far, the predicate that is (partially) omitted is agentive ('to break a vase', 'to buy a book', etc.). However, this is not necessary for ellipsis to be acceptable. In the following examples, the predicate is not agentive.

a. VASE CL(S): 'crack'. MUG IDENTICAL
'The vase is cracked. The mug too.' (recreated from Cecchetto, Checchetto, Geraci, Santoro, Zucchi 2015, 221)

b. TABLE RED. CHAIR IDENTICAL
'The table is red. The chair too.' (recreated from Cecchetto, Checchetto, Geraci, Santoro, Zucchi 2015, 221)

c. GIANNI DIE. PIERO IDENTICAL
'Gianni die. Piero did too.' (Cecchetto, Checchetto, Geraci, Santoro, Zucchi 2015, 221)

The following example shows that ellipsis is possible also when the predicate is a classifier predicate.

$$\overline{\hspace{3cm}\text{tp}}$$
WINDOW SASS(L): 'rectangular'. DOOR IDENTICAL
'The window is small and rectangular. The door too.' (recreated from Cecchetto, Checchetto, Geraci, Santoro, Zucchi 2015, 221)

The clause that contains ellipsis can be a subordinate clause, as shown by the following example.

GIANNI MARIA$_a$ LOVE$_a$. IX$_{3a}$ THINK PIETRO IDENTICAL
'Gianni loves Maria. She thinks that Pietro does too.' (recreated from Cecchetto, Checchetto, Geraci, Santoro, Zucchi 2015, 223)

In all the preceding examples, the clause from which the meaning of the missing predicate is recovered typically precedes the clause in which ellipsis takes place. However, it does not need to be so. In the following sentence, the clause from which the meaning is recovered *follows* the clause that contains ellipsis.

$$\overline{\hspace{2.2cm}\text{re}}$$
IF PIETRO NOT GIANNI GO
'If Pietro does not, Gianni will go.' (recreated from Cecchetto, Checchetto, Geraci, Santoro, Zucchi 2015, 224)

In all the examples considered so far, what is omitted is the entire predicate or a part of it. Subjects were never omitted. However, there is a specific syntactic context in which the subject can be omitted as well. This happens in embedded interrogatives, in which the interrogative clause is omitted except for the interrogative sign. One example is the following (the *wh*-sign precedes the matrix verb KNOW because, in this specific case, the (elliptical) indirect question precedes the main verb). The intended embedded interrogative is GIANNI MEET WHO but the signs GIANNI MEET are omitted.

GIANNI SOMEONE MEET BUT WHO IX$_1$ KNOW$^\wedge$NOT
'Gianni met someone, but I do not know who.'   (recreated from Cecchetto, Checchetto, Geraci, Santoro, Zucchi 2015, 225)

However, embedded interrogatives allow ellipsis of the verb and object as well. In the following example, the intended embedded interrogative is BOOK BUY WHO but the signs BOOK BUY are omitted.

SOMEONE BOOK BUY BUT WHO IX$_1$ KNOW NOT
'Someone bought a book, but I don't know who.'

2.6 Pronoun copying

In LIS, the pronoun copying phenomenon takes place when a pronoun refers to an argument realized within the same clause. The argument of a verb appears in its regular position, but it is copied by a pronominal index (IX), agreeing in space with the referred argument. IX most often appears in clause final position. The sentence below shows an example of pronoun copying.

IX$_3$ PIZZA EAT DONE IX$_3$
'He has eaten pizza, he.'

It is important to distinguish between pronoun copying and doubling. Doubling is observed when the same category is (partially) repeated twice in different positions in the sentence. Doubling does not need to involve IX. In LIS, for example, it is possible to have the repetition of the interrogative *wh*-elements, such as WHAT, WHO, HOW, WHERE [SYNTAX 1.2.3.7]. An example of this is shown in the sentence below.

$$\overline{\qquad\qquad\qquad\text{wh}\qquad\qquad}$$
Q$_{\text{artichoke}}$ TODAY EAT Q$_{\text{artichoke}}$
'What do you eat today, what?'

When pronoun copying and *wh*-element take place in the same sentence, the pronoun copying (IX) seems to precede the final interrogative. The example below shows one of these situations.

$$\overline{\qquad\qquad\qquad\text{wh}\qquad\qquad}$$
BOOK IX$_2$ WANT IX$_2$ WHICH
'Which book do you want, you?'

2.6.1 Personal pronoun copying

In the pronoun copying phenomenon, the copied argument can be realized as a full noun phrase (NP) [SYNTAX 4], as an overt pronoun [LEXICON 3.7], or as a null pronoun. In LIS, a commonly copied argument is the 'aboutness topic' [PRAGMATICS 4.2], namely the entity the sentence

is about. Since this type of topic usually coincides with the subject, often the pronoun copying refers to the subject of the clause. Example (a) shows the copy of a subject realized as a full NP, whereas in the example (b) the subject is realized as a pronoun.

a. CAT$_a$ IX$_a$ KIBBLE$_b$ LIKE IX$_{3a}$
'The cat likes the kibble, he.'

b. IX$_{3a}$ KIBBLE LIKE IX$_{3a}$
'He (the cat) likes the kibble, he.'

The pronoun may also refer to a subject which is otherwise left unexpressed, as shown in the sentence below.

CHOCOLATE IX$_b$ LIKE IX$_{3a}$
'(She) likes chocolate, she.'

In LIS, pronoun copying may also appear in other types of sentences, such as matrix polar interrogatives, as in the example below.

<u>   bl: a   </u> <u> y/n </u>
MOTHER FRUIT LIKE IX$_{3a}$
'Does mum like fruit?'

Copying pronouns may also appear in complex sentences, which contain an embedded clause. In this situation in LIS, the pronoun can refer to either the matrix or the embedded subject. In the following example, IX refers to the matrix subject MOTHER.

M-A-R-I-A FRUIT EAT MOST MUST MOTHER$_a$ SAY IX$_{3a}$
'My mum said that Maria should eat more fruit, she (my mum).'

In the following example, IX refers to the embedded subject SISTER.

FATHER$_a$ REMEMBER IX$_b$ SISTER$_b$ ADVENTURE LIKE IX$_{3b}$
'My father remembers that his sister loves adventures.'

What decides whether IX refers to the embedded or to the matrix subject seems to be its position: if IX immediately follows the matrix clause, it refers to the matrix subject, if IX immediately follows the embedded clause, it refers to the embedded subject.

Based on present knowledge, pronoun copying cannot be used as a specific tool for distinguishing subordination from coordination in

LIS. However, pronoun copying naturally occurs with subordination as in the following example (repeated from above).

M-A-R-I-A FRUIT EAT MOST MUST MOTHER$_a$ SAY IX$_{3a}$
'My mum said that Maria should eat more fruit, she (my mum).'

On the contrary, in the case of two or more coordinated sentences, the final copying pronoun is hardly found.

2.6.2 Syntactic properties of pronoun copying

In the following subsections, the syntactic properties of pronoun copying will be revealed, in particular the asymmetrical relationship between subject and object in pronoun copying [SYNTAX 2.6.2.1], and the syntactic position of the copying pronoun in a sentence [SYNTAX 2.6.2.2].

2.6.2.1 Possible subject-object asymmetry in pronoun copying

In LIS, a copying pronoun mostly refers to the subject of the clause. However, data show that pronoun copying can also be linked to objects, in a restricted set of cases. This happens when objects are fronted, as in (a), but the copying pronoun can also occasionally refer to an object which follows the subject, as in (b).

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            top
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a. CHOCOLATE$_a$ GIANNI HATE IX$_{3a}$
'As for the chocolate, Gianni hates it.'

b. IX$_1$ CHOCOLATE$_a$ HATE IX$_{3a}$
'I hate chocolate.'

Examples like these allow us to assume that the pronoun copying phenomenon is not specifically linked to the syntactic roles of arguments in a sentence, but rather to their pragmatic roles, such as topic and focus [PRAGMATICS 4]; [SYNTAX 2.6.4].

2.6.2.2 Position of the copying pronoun

In LIS not all occurrences of pronouns referring to arguments of the same sentence can be considered as pronoun copying phenomena, but only those that appear in sentence-final position. The multiple occurrences of indexical pronouns in argument position should be considered as simple pronouns. Furthermore, the category of verbs can affect the occurrence of the pronoun copying phenomenon. With agreement verbs, subject pronoun copying may appear together with object pronoun copying, specifying the relationship expressed by the verb, as shown by the example below.

IX$_1$ GIANNI$_a$ BOOK $_1$CL(flat open 5): 'give_book'$_a$ DONE IX$_1$ IX$_{3a}$ 🖐
'I gave the book to Gianni, I to him.'

2.6.3 Prosodic features of pronoun copying

The pronoun copy is generally unstressed, namely it is not accompanied by any specific kind of prosodic contour or intonational break [PHONOLOGY 2.2.3]. No pause occurs between the clause and the sentence final pronoun copy, and no intonational markers, such as blink or head nod, are registered before the realization of the pronoun copy.

2.6.4 Functions of pronoun copying

As anticipated previously [SYNTAX 2.6.2.1], the functions of pronoun copying are not fully related to syntax, but they seem to be correlated with various pragmatic functions, in particular with specific emphatic expressions [PRAGMATICS 4.2], as in the example below.

GIANNI$_a$ IX$_a$ REPORT DONE IX$_{3a}$ 🖐
'Gianni said these words, he did.'

Further pragmatic functions which are conveyed by pronoun copying are focus [PRAGMATICS 4.1] and topics [PRAGMATICS 4.2]. The examples below present respectively pronoun copying referring to the corrective focus expressions CAT in (a) and pronoun copying which refers to the topic MOUSE in (b), and is defined as topic agreement.

$$\overline{\text{foc}}$$

a. DOG$_a$ NOT CAT$_b$ MOUSE$_{c\ 3b}$CL(spread curved open 5): 'eat'$_{3c}$ DONE IX$_{3b}$

'It is the cat who ate the mouse, not the dog, he (the cat)!'

$$\overline{\quad\text{top}\quad}$$

b. MOUSE$_a$ CAT$_{b\ 3b}$CL(spread curved open 5): 'eat'$_{3a}$ DONE IX$_{3a}$

'As for the mouse, the cat ate it.'

One of the most common pragmatic functions conveyed by pronoun copying seems to be topic agreement. Indeed, topic pronoun copying can also be considered a familiar topic occurrence, since it most commonly has the function of further specifying some information already shared between the signer and his/her interlocutor.

$$\overline{\qquad\qquad\text{top}\qquad}$$

MOTHER IX$_a$ COOK ALWAYS FOR IX$_{1pl}$ IX$_{3a}$

'(Our) mother, she always cooks for us, she.'

Information on Data and Consultants

The descriptions in this chapter are based partially on the references below and on the elicitation of new data. For information on data and consultants see the references. The video clips exemplifying the data have been produced by Deaf native-signing consultants.

As for [SYNTAX 2.1.3.2], it is important to keep in mind that, due to the lack of clear passive morphology, the identification of passive constructions in sign languages is difficult and still very controversial. In this section, the reader finds the description of some preliminary data collected on the functional equivalent of passive constructions in LIS.

Authorship Information

Chiara Branchini [2.1]
Chiara Calderone [2.2] and [2.6]
Alessandra Checchetto [2.3]
Lara Mantovan [2.4]
Carlo Cecchetto [2.5]

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edited by Chiara Branchini and Lara Mantovan

List of authors

Chiara Branchini   Lexicon 3.9; Syntax 2.1; Syntax 3.1; Syntax 3.4; Syntax 3.5.1; Syntax 3.5.2; Syntax 3.5.3; Syntax 3.5.4; Syntax 3.5.7.2; Syntax 3.5.7.5

Chiara Calderone   Socio-historical background; Syntax 2.2; Syntax 2.6; Syntax 3.2; Pragmatics 1.1; Pragmatics 1.2; Pragmatics 1.3; Pragmatics 1.4; Pragmatics 2; Pragmatics 4; Pragmatics 5; Pragmatics 7; Pragmatics 8; Pragmatics 9; Pragmatics 10; Pragmatics 11

Carlo Cecchetto   Syntax 1.1; Syntax 1.2; Syntax 1.3; Syntax 2.5; Syntax 3.3; Syntax 3.5.5; Syntax 3.5.6; Syntax 3.5.7.1; Syntax 3.5.7.2; Syntax 3.5.7.4; Pragmatics 3; Pragmatics 6

Alessandra Checchetto   Lexicon 3.1; Lexicon 3.2.1; Lexicon 3.2.2; Lexicon 3.2.3; Lexicon 3.5; Morphology 2.1.2.1; Morphology 2.2.4; Syntax 1.4; Syntax 1.5; Syntax 2.3; Syntax 3.5.5; Syntax 3.5.6; Syntax 3.6; Syntax 3.7

Elena Fornasiero   Lexicon 1; Lexicon 3.1; Lexicon 3.2.2; Lexicon 3.3; Morphology 2.1.1; Morphology 2.1.2.1; Morphology 2.1.2.2; Morphology 2.2.1; Morphology 2.2.2; Morphology 2.2.3; Morphology 3; Morphology 4; Morphology 5

Lara Mantovan   Phonology; Lexicon 2; Lexicon 3.4; Lexicon 3.6; Lexicon 3.7; Lexicon 3.10; Syntax 2.4; Syntax 4; Syntax 5; Pragmatics 1.5

Mirko Santoro   Morphology 1

Affiliation information of authors

Chiara Branchini, Chiara Calderone,
Elena Fornasiero and Lara Mantovan   Ca' Foscari University of Venice

Carlo Cecchetto   University of Milan-Bicocca

SFL (CNRS & Université Paris 8)

Alessandra Checchetto   University of Milan-Bicocca

Mirko Santoro   SFL (CNRS & Université Paris 8)

Deaf consultants

Gabriele Caia   Mauro Mottinelli
Filippo Calcagno   Rosella Ottolini
Nino D'Urso   Mirko Pasquotto
Anna Folchi

A Grammar of Italian Sign Language (LIS) is a
comprehensive presentation of the grammatical
properties of LIS. It has been conceived as a tool
for students, teachers, interpreters, the Deaf community,
researchers, linguists and whoever is interested
in the study of LIS. It is one output of the Horizon 2020
SIGN-HUB project. It is composed of six Parts: Part 1
devoted to the social and historical background in which
the language has developed, and five Parts covering
the main properties of Phonology, Lexicon, Morphology,
Syntax and Pragmatics. Thanks to the electronic format
of the grammar, text and videos are highly interconnected
and are designed to fit the description of a visual
language.

Università
Ca'Foscari
Venezia