

Parataxis, hypotaxis, and subordination in Brazilian Sign Language: a brief introduction

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ABSTRACT: Clause articulation is a grammatical strategy found in all-natural languages. This phenomenon gives rise to complex constructions that manifest in a continuous gradient (parataxis – hypotaxis – embedding) from integrating syntactic, semantic, and pragmatic levels of the language in use. The present study is guided by a functionalist perspective of language and aims to describe some articulation processes of sentences in Brazilian Sign Language (Libras). Regarding the Libras data, we noticed that juxtaposition, conjunctions, facial expressions, prolonged head nod, head nod linked to ALREADY mouthing, trunk displacement, and the maintenance of the non-dominant hand (buoy) could play a role. An essential role in the articulation of clauses or, at least, in the cohesion of the sentence.

KEYWORDS: Complex clauses; Parataxis; Hypotaxis; Subordination; Libras.

1. Introduction

All human languages have strategies for articulating simple sentences and forming complex sentences. In the face of these strategies, the speaker articulates sentences to build a new meaning, which will be different from the simple union between parts (CARVALHO, 2004).

According to Neves (2011), the relationships between clauses are

broad, considering integrating syntactic, semantic, and pragmatic components, and emerge from the speaker's proposition during the utterance. This brings up different possibilities of connection between a primary and a secondary clause element. Hence the need for a systemic view. We need to extrapolate the syntactic and conjunction field and go to the semantic field and conceptualizations to understand the relationship between clauses. Once again, the type of proposition that emerges is essential for the discourse. Connectives make the relationships between clauses explicit but do not determine them.

This article aims to present some strategies for articulating sentences in Brazilian Sign Language (Libras) at parataxis, hypotaxis, and subordination levels. According to Velupillai (2012), parataxis concerns a relationship between clauses of equal status; in hypotaxis, the secondary clause functions as an adjunct to the primary clause, and in the subordination, the dependent clause is part of the argument structure of the main clause.

We were mainly attentive to the predicates that denote actions during the analysis. Signs expressing the idea of the state, as in BEAUTIFUL (be beautiful), were also understood as verbs and considered in the analysis. According to Givón (2001), a proposition can mean states, events, and actions. About this, we follow Zeshan (2003) about Indo-Pakistan Sign Language: all open class signs can function as predicate. The data presented here are (1) from spontaneous conversations via social networks, produced in bidirectional and asynchronous interaction, (2) collected through field notations, (3) signed texts that make up the National Proficiency Exam in Libras (ProLibras), and (4) data from the Libras corpus that is being prepared in the city of Palmas, capital of the state of Tocantins (northern region of Brazil) (LUDWIG et al. 2020). In the first two cases, the data were recorded by one of the authors of this work for illustration purposes.

2. Articulation of clauses in natural languages

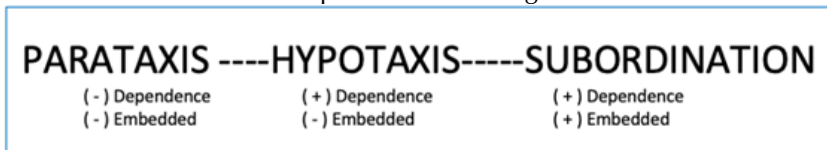
According to Halliday (1985), the different combinations between clauses occur from the intersection of tactical and logical-semantic axes. The first axis of combination between clauses, called tactical, would be an axis of interdependence. Parataxis and hypotaxis relationships are foreseen, which can happen at several levels. Parataxis establishes a notion of correlation between elements of equal status, and hypotaxis brings a notion of a relationship that involves dominance and modification, i.e., a relationship between a dependent element and its dominant. According to

Braga (2001), these relationships apply to all elements, such as words, phrases, or clauses. From the tactical axis, Carvalho (2004) explains that both in paratactic and hypotactic structures, there are primary clauses (the first in a paratactic construction and the dominant in a hypotactic construction) and secondary clauses (those that occur after the primary ones) in a paratactic construction and the dependent ones in a hypotactic construction). The author emphasizes that the term “primary” does not mean the main (most crucial clause) but the meaning of nuclear or matrix. It is from it that the other segment of the clause complex follows. Once again, according to Neves (2001), primary clauses do not always carry the most important information in the discourse.

The second axis, the logical-semantic one, would be an axis in which semantic and functional relationships between connected clauses are established. Halliday (1985) groups these relationships into expansion and projection relationships. In the first case, in the expansion relationship, one clause expands the other in situations in which one elaborates the content expressed by the other (elaboration), adds something new concerning the content of the primary clause (extension), or even qualifies the other, through the expression of a circumstantial feature, highlighting some aspect of the primary clause (enhancement). In the second case, one clause projects itself onto the other in the projection relationship.

Hopper and Traugott (1993 *apud* NEVES, 2001) present a continuum of articulation between clauses, which can happen between a nucleus and one or more additional nuclei, and between a nucleus and one or more margins. In this continuum of articulation between clauses, the authors consider the dependence of parameters (independence/interdependence or relative dependence/dependence) and integration (coordination/co-subordination/subordination). This refers to a gradient between the relationships of parataxis, hypotaxis, and subordination (embedding), illustrated in Figure 1.

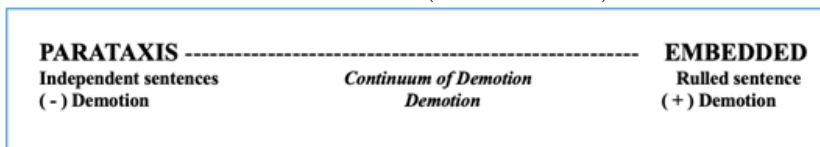
FIGURE 1 - Continuum of dependence and integration between sentences



Source: Neves (2001, p. 63), translated by one of the authors of this paper.

Lehmann (1998) also presents some criteria for the study and description of articulation of clauses in natural languages. The author presents the parameters (i) hierarchical demotion and (ii) syntactic level of secondary clauses, which reflect the degree of autonomy or integration of the clause following the primary clause. The relation of this following clause can become a (said) subordinate to the primary clause. When affected by demotion (or declassification), a clause can be configured as a subordinate clause (or embedded), manifesting itself as a primary clause constituent. Figure 2 below illustrates this demotion continuum.

FIGURE 2 - Continuum of a demotion (declassification)



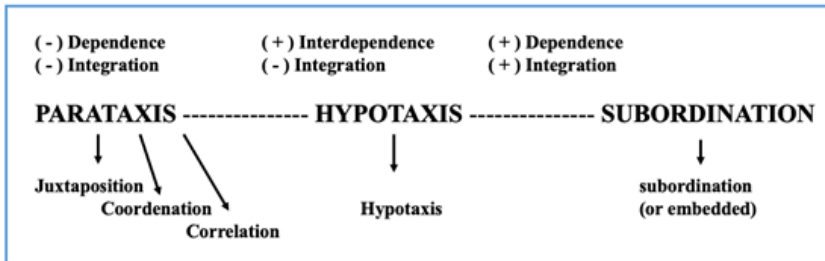
Source: Lehmann (1988, p. 7), translated by one of the authors of this paper.

From a functional perspective of clause articulation, Carvalho (2004) points out that the dichotomy between coordination and subordination cannot account for all the possibilities of manifestation arising from the connection of clauses. On a gradient continuum, the possibilities vary tenuously, going from a more subtle blend to a more cohesive blend. Parataxis-level clauses, for example, may involve the phenomenon of juxtaposition (adjacent clauses under the same intonation contour, without the use of a connective) and coordination (explicit use of a connective). The articulated clauses at the hypotaxis level can encompass both adverbial clauses and explanatory adjective clauses, i.e., those that are part of the speaker's discursive organization (information apart) but do not function as an argument of the primary (nuclear). Finally, subordinate clauses (or embedded clauses), which function as a complement to a phrase (noun) or modify a name (restrictive adjective) and play an argument role concerning the matrix clause. However, according to the author, this does not prevent, for example, the same type of complex sentence may have differences in the distributional pattern. Juxtaposed clauses, for example, can be articulated at a hypotaxis level (NEVES, 2001).

Lima (2002) also presented a continuum based on the discussions (dependence, integration, and the possibilities in crossing the tactical and logical-semantic axes). The proposal arises to support the analysis of complex

sentences in the Portuguese language based on the used language's data. Figure 3 below illustrates the continuum.

FIGURE 3 - Continuum of articulation of sentences (LIMA, 2002)



Source: Lima (2002, p. 88), translated by one of the authors of this paper.

Once again, the analysis of the articulation of clauses cannot focus on conjunctions but the emerging propositions. The sentences, once articulated, form a semantic unit, and, indeed, there will be a sharing of syntactic elements, causing the erasure of terms. In this process, clauses can lose elements, acquire specific prosodic properties, assume nominal characteristics as a whole, or even fulfill an adjunct function of a matrix clause.

In the following sections, we present some data from complex clauses found in our corpus, according to the functional criteria addressed and from the categories parataxis, hypotaxis, and subordination.

3. Parataxis

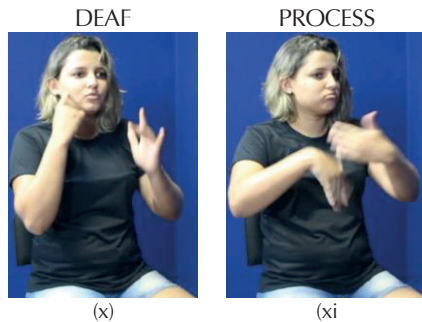
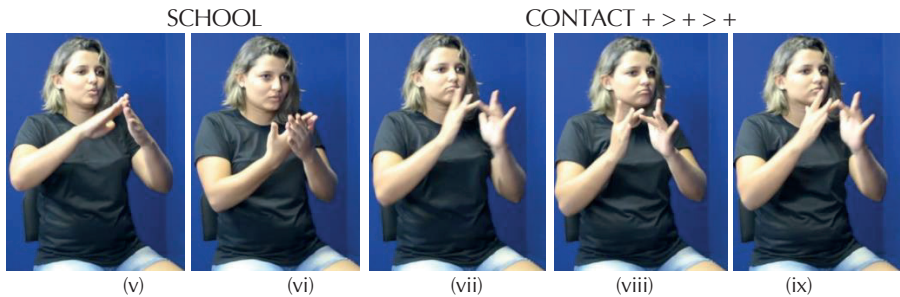
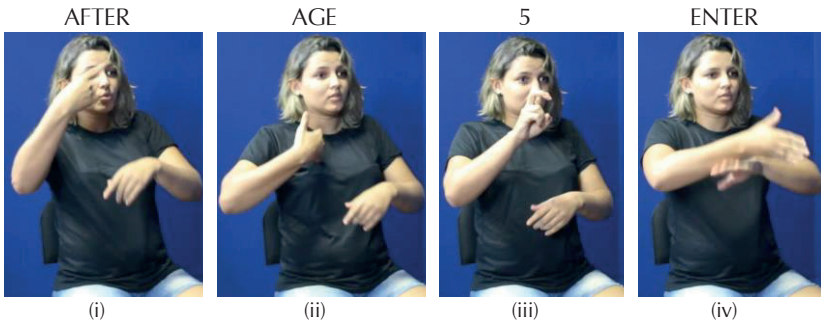
Parataxis comprises the combination of clauses of equal status to form a semantic unit, either by juxtaposition or through a connective, and which have relative independence. The clauses that make up this unit are equally important from an informational point of view. Generally, the articulation of clauses at the parataxis level involves an additive, adversative, and alternative notion.

According to Quer et al. (2017), non-manual marking can play an essential role in parataxis-related clauses due to the modality of sign languages. This marking can have both morphosyntactic and prosodic functions. Non-manual markers such as eye blinks, facial expressions, head and shoulders position, and gaze direction have been identified as sentence delimiters in several sign languages.

The following data illustrate sentences articulated at the parataxis

level with the idea of addition (additive or conjunctive parataxis), opposition (adversative parataxis), and alternation (alternative or disjunctive parataxis). The strategies involve juxtaposition, connectives, and body displacement in the signaling space.

(1) Additive parataxis



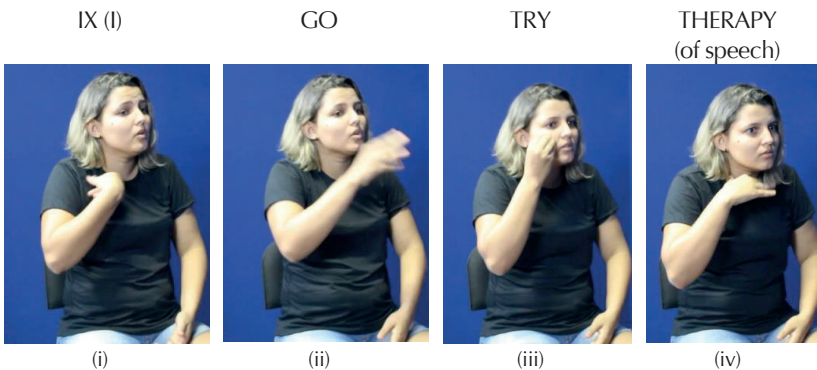
Source: Corpus of Libras (2020)

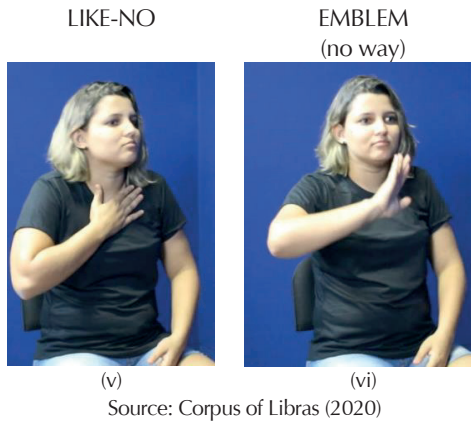
Translation: When I was five years old, when I entered school, I established contact with the deaf, and things started to happen.

In the construction above, in (1), we can verify a clause of the temporal hypotaxis type, in the first part, between the sections from (i) to (vi) and the main clause between the sections (vii) to (xi), which, in fact, is formed by two articulated clauses at the level of conjunctive parataxis (or additive parataxis). Let us stick to this second part of the construction.

From the predicates TO CONTACT DEAF (I established contacts with the deaf) and TO PROCESS (things were happening), we recognize two clauses connected by a notion of addition through juxtaposition. In this case, there is no use of a connective to join them. It can be seen that, during the articulation of these clauses, the signer's cheeks are inflated, and there is a slight release of air. This would be a non-manual marking that reinforces the notion of action and activity.

(2) Adversative parataxis (no connective)





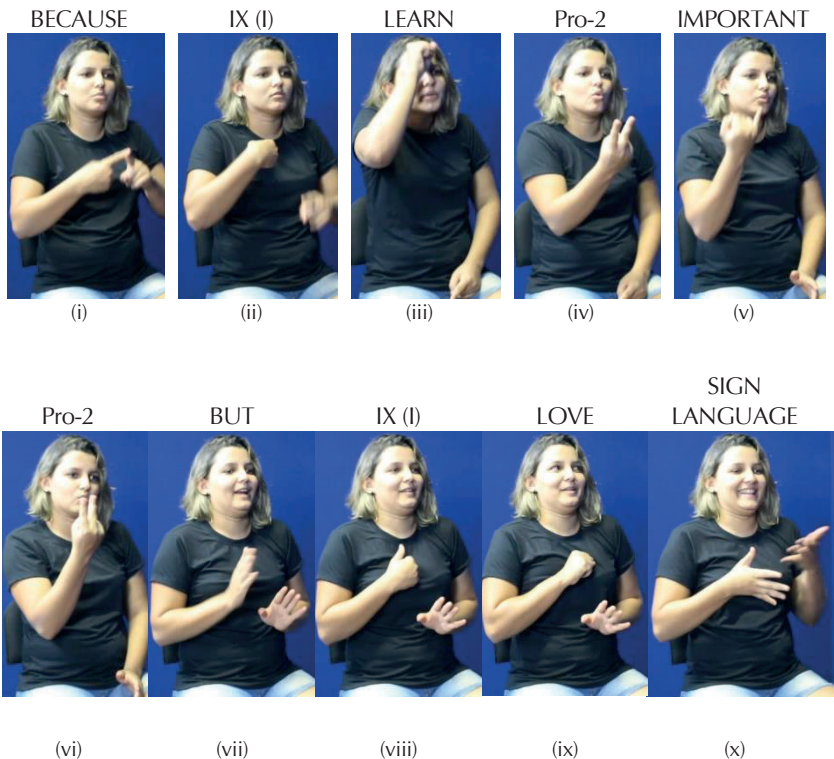
Translation: I went to try speech therapy, (but) I did not like it at all!

In these data, in (2), two clauses are juxtaposed by a notion of opposition, whose meaning is attributed by the proposition coming from the context. Although there is no use of manual connective, the clauses are articulated at the level of parataxis of the adversative type¹. The first clause goes from (i) to (iv), followed by another clause from (v) to (vi).

The data below illustrate the articulation of clauses at the parataxis level using the connective. According to Rodrigues (2019), the sign BUT can be considered manual conjunction that introduces an adversative clause. This conjunction is also associated with the notions of counter-expectation, rectification, and denial. Based on her analysis data, the author presents three other adversative conjunctions in Libras, considered lexical variations of BUT.

¹ Although, at the end of articulation of the first clause in image (iv), the signer makes a non-manual movement (the trunk moves forward). This movement can be seen as a non-manual connector or a prosodic marker of an adversative structure. This movement contrasts marks the end of the first clause and contrast with second clause. We are grateful to one of the anonymous reviewers who made this observation.

(3) Adversative parataxis (with connective)



Source: Corpus of Libras (2020)

Translation: (...) because I learned both; both are important, but I love sign language.

In (3), there are clauses articulated at the level of parataxis of the adversative type. However, unlike the data in (2), a connective is used. The predicate BE-IMPORTANT, understood here as the notion of being important, is the first sentence, in sections (iv) to (vi), which follows articulated from the second sentence, which emerges from the predicate TO LOVE, in sections (viii) to (x). Thus, the connective BUT, illustrated in section (vii), promotes the connection between the two constructions at the parataxis (adversative) level.

(4) Alternative parataxis (with connective and use of space)

OR

UFT

W-H-O

IF-SAME

UFT

PAY



(i)

(ii)

(iii)

(iv)

(v)

(vi)

EAT

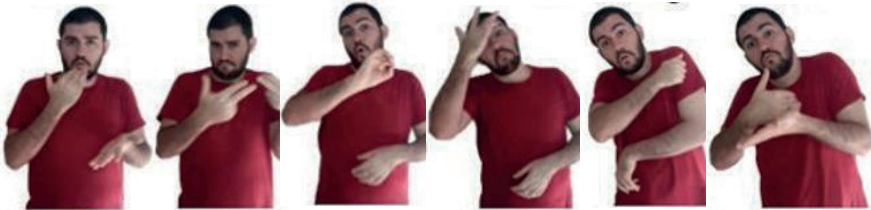
SEVERAL

OR

PERSON

STUDENT

SPLIT



(vii)

(viii)

(ix)

(x)

(xi)

(xii)

TAKE

WHICH



(xiii)

(xiv)

Source: Diniz (2019), in personal communication.

Translation: Or will UFT, I do not know who from UFT, pay for the food, or will the students split (the expenses) and take it?

In (4), the data above illustrate using sign space as a strategy for articulating clauses. In construction, there is a relationship at the level of parataxis, with a sense of alternation. The first part of the construction, sections from (i) to (viii), is performed with the signer's trunk in a neutral position. In contrast, the second part of the sentence, from (ix) to (xiv), is performed with the trunk displaced posteriorly and laterally concerning the starting position. Thus, each construction seems to be articulated in different positions in the signaling space.

A connective introduces clauses in the above data added to the productive use of the signaling space. Sections from (i) to (viii) are articulated with the neutrally positioned trunk and introduced by the OR sign. In sections (ix) to (xiii), corresponding to the construction's second part, a part is articulated with the trunk in an inclined position, specifically between sections (x) to (xii), and is also introduced by OR. Thus, clauses at the disjunctive parataxis level are articulated at different points in the signaling space and are introduced by a connective.

4. Hypotaxis

A clause starts from a predicator so that it is the basis for the organization of the verb phrase, which, in turn, triggers the argument structure. In a syntactic unit, there may be elements that help build the utterance but are not elements required by the predicate, i.e., they compose the discursive scene functioning as satellites. Following this principle, an entire clause can function as a satellite of the main clause.

Satellite clauses are articulated at the hypotaxis level and work as an adjunct to the main clause, providing a highlight or even a circumstantial aspect of the matrix clause. The hypotactic sentence, in some way, guides the interlocutor to the message to be conveyed, organizing the speech and leading the interlocutor to the said message. It guides them to a scenario in which the event unfolds.

Once again, the clauses articulated by hypotaxis form a cohesive and coherent speech since they work as a circumstance of the main clause, helping to build the utterance. However, they do not fulfill the role of argument in the main clause because the predication does not require them. Thus, hypotaxis is a choice of the speaker.

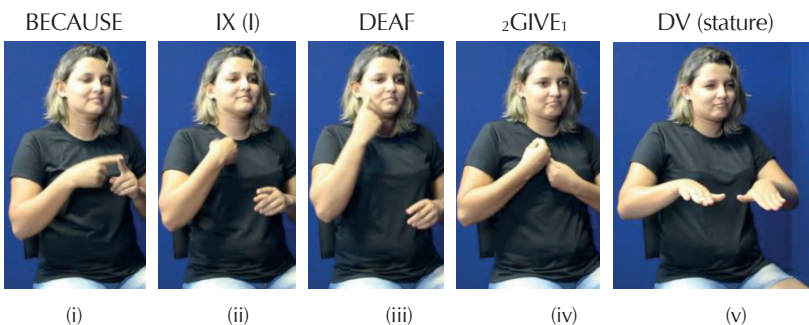
The primary clause is the dominant clause in hypotaxis, and the second clause is the dependent clause. According to Neves (2001), the term "primary" does not have the meaning of main, but the meaning of nuclear or matrix since it is from it that the other segment of the clause complex follows.

The author emphasizes that primary clauses do not always carry the most important information in the discourse.

The clauses articulated at the hypotaxis level can encompass both adverbial clauses and explanatory adjective clauses (apositive). As mentioned, those are articulated to a nuclear clause, attending to the discourse organization and not to the argument structure of the matrix clause. Therefore, they are a choice of the speaker and have a relative dependence as non-completive clauses are articulated to a primary clause at the hypotaxis level (Hopper; Traugott, 1993; Carvalho, 2004).

More specifically, an explanatory adjective clause works like a paraphrase of a nuclear clause and brings a reinforcement of information, a type of exemplification, acting as an apposition. According to Decat (2001), the explanatory adjective clause adds information concerning the antecedent clause, which, in turn, is independently delimited. In this case, this information is supplementary, which makes it a non-restrictive clause as it does not serve to identify, in a unique way, any element of a set. The data below illustrate explanatory adjective clauses.

(5) Explanatory adjective hypotaxis



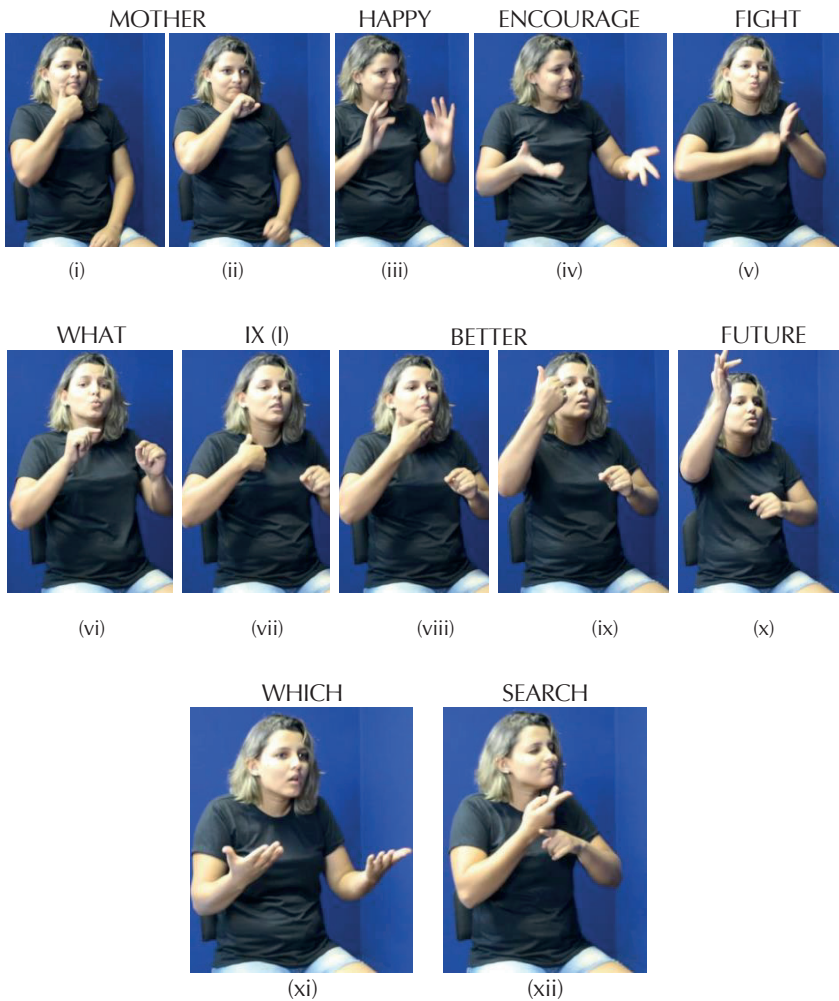


Source: Corpus of Libras (2020)

Translation: (...) because I am deaf and they gave me (a sign), they were two children, small deaf children, they gave me the Lorrane sign because of this mole.

In (5), clauses articulated at the level of hypotaxis of the explanatory adjective type. In the section (v), there is a predicate in which the signer describes the people who gave her a sign, “they were two children” in Brazilian Sign Language. After articulating this sentence, the signer makes an addendum and articulates the following sentence to provide supplementary information to what was said. She articulates the section from (vi) to (viii), explaining that “they were two small deaf children.” During the articulation of this clause, considered an explanatory adjective, there is a break in the prosodic pattern. At this moment, the signer makes a narrowing of the opening of the gaze, sketches a discreet smile, and performs a discreet protrusion of the head so that the hypotactic clause of the explanatory adjective type is distinguished because of this specific prosodic pattern.

(6) Explanatory adjective hypotaxis



Source: Corpus of Libras (2020)

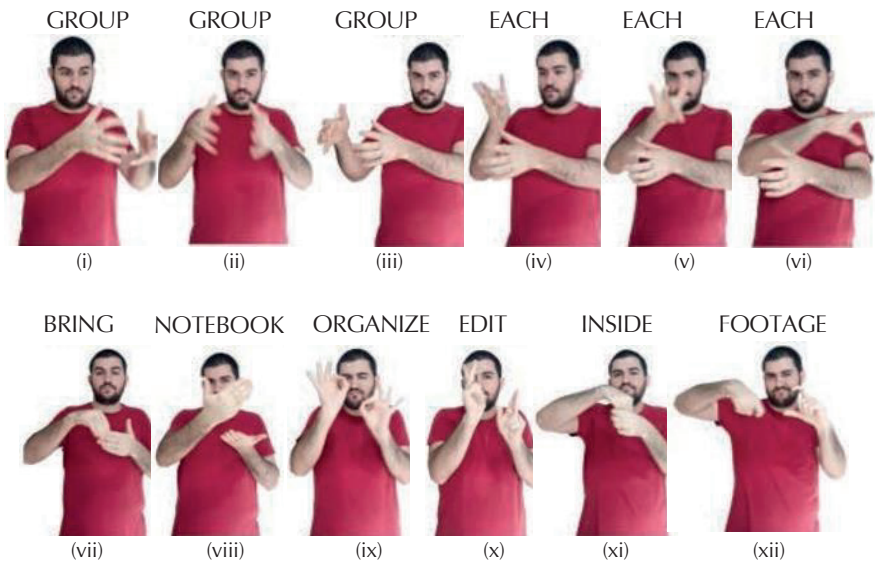
Translation: (...) (My) mother was happy: she encouraged, fought for what was best for my future, sought (...)

In (6), there is a relationship between explanatory adjective hypotaxis clauses. The first part of the construction comprises sections (i) to

(iii) (My mother was happy). The second part of the construction, which includes sections (iv) to (xii), can be considered an explanatory addendum concerning the first part. The predicates TO ENCOURAGE, section (iv), TO FIGHT, section (v), and TO SEARCH (xiii) were considered supplementary information regarding the first part of the construction. These predicates, in turn, are juxtaposed at the parataxis level and articulated with a considerable pause to characterize the hypotactic construction also with a specific prosodic pattern.

According to Halliday (1985), adverbial hypotactic clauses are articulated so that one qualifies (modifies, enhances, highlights) the other by adding circumstantial data. Thus, clauses that traditionally fulfill the adverb function qualify primary clauses concerning time, purpose, cause, or condition and give them an informative relief. The data below illustrate adverbial clauses with the idea of purpose, time, cause, and condition.

(7) Adverbial hypotaxis of purpose





Translation: Each group will bring their computer (to) organize and edit the footage with writing signs, right?

The data in (7) shows an adverbial hypotaxis relation of purpose. The first part of the construction, in the sections from (i) to (viii), corresponds to the main clause, while the second part of the construction, in the sections from (ix) to (xiv), concerns the dependent clause, indicating a purpose. No lexical sign indicates this relationship, only the proposition coming from the context. However, there is a specific non-manual marking: the elevation of the chin and the decrease of the gaze, in sections (ix) and (x), marking the beginning of the hypotactic clause of purpose.

Regarding temporal adverbial hypotactic constructions, Lima (2002) establishes that such sentences place a set of events somewhere in the timeline. In this sense, the signer chooses to temporally mark an event in the nuclear clause concerning an event in the dependent clause. Generally, the temporal relationship between the two events can be expressed as simultaneous or non-simultaneous.

In the case of simultaneous temporal hypotaxis, the events in the dependent clause are expressed simultaneously with the events expressed in the nuclear clause, i.e., the two events happen simultaneously. The data below illustrate articulated clauses at the adverbial hypotaxis level through a specific strategy of the gestural-visual modality: maintenance of the non-dominant hand (buoy). In the sentence, the signer remains with the non-dominant hand in suspension, creating a background scenario, while the dominant hand continues with the narrator's speech. In this way, the time of the event in the main clause is situated simultaneously concerning the time of the event encoded in the non-dominant hand, which is suspended (buoy).

(8) Temporal adverbial hypotaxis (simultaneous)



Source: Miranda (2019), in personal communication.

Translation: As I pushed the bike, the men mocked me, and I got scared.

From a discursive point of view, the signer's body can be segmented to represent visible participants, invisible participants, the narrator's speech, and the state of participants; all of this simultaneously (CARNEIRO, 2015; CARNEIRO; OLIVEIRA, 2017). In (8), the signer segments his body so that one hand encodes the narrator's speech and the other hand encodes a participant's action. One of the hands of the permanent sign is suspended and is configured to hold the handlebars of a bicycle, coding the construction "I pushed the bicycle" in sections (i) to (v). Meanwhile, the other hand articulates the construction "the men mocked and I got scared," also in the sections from (i) to (v). The use of the buoy (maintenance of the non-dominant hand) places the time of events simultaneously. Thus, the events "the men mocked" and "get scared" happen simultaneously when the character pushes the bicycle. Once again, one of the hands remains suspended while the narrator's speech takes place, thus placing the time of the event of the main clause concerning the time of the event of the dependent clause.

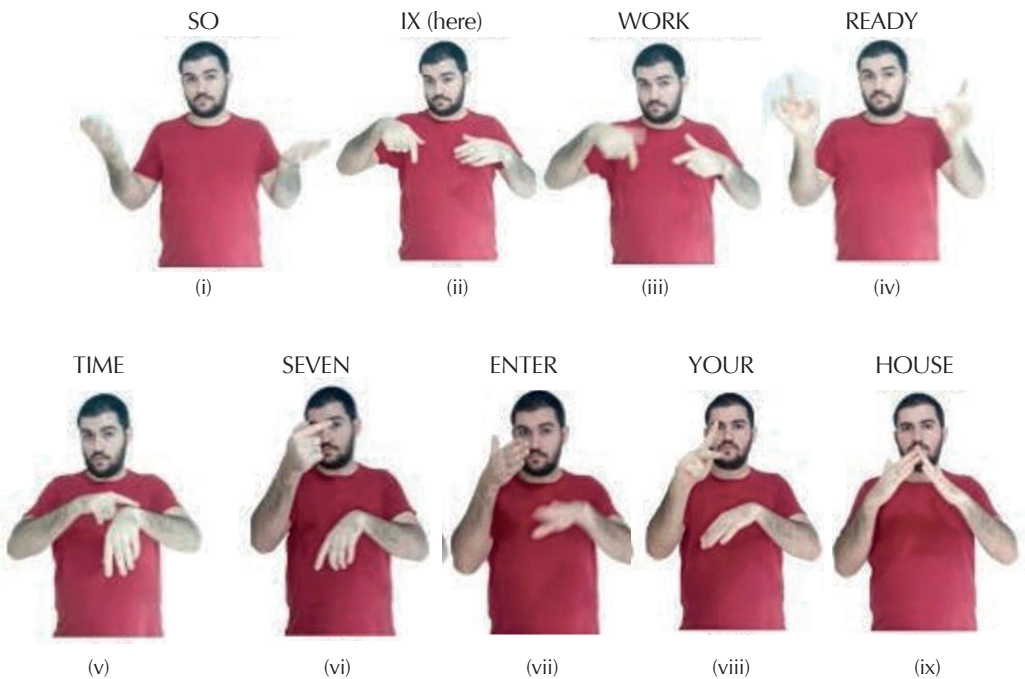
We observe that in sections (iv) and (v), the attribution of hands alternates. The left hand, which initially represented the narrator's speech, starts to function as a buoy (participant pushing the bicycle). In contrast, before acting as a buoy, the right hand now starts to encode the narrator's speech.

The alternating use of the hands also serves to articulate clauses in languages and signs (TANG; LAU, 2012). By observing only the action of the hand that encodes the narrator's speech, we recognize that the alternating

use of the hands promotes the articulation of two sentences at the level of parataxis. At first, in sections (i) to (iii), the left hand encodes the sentence IX (he) MAN SMILE (translation: the men mocked). Afterward, the hands alternate, and in sections (iv) and (v), the right hand encodes the sentence IX (I) FEAR (translation: I got scared). These clauses, coming from the narrator's speech, were articulated through the alternate use of the hands. Meanwhile, the buoy remains, also alternately.

In cases of non-simultaneous temporal hypotaxis, the event of the hypotactic sentence and the event of the main sentence occur at different times. The data (9) below illustrate a non-simultaneous temporal hypotaxis by juxtaposition.

(9) Temporal adverbial hypotaxis (not simultaneous)



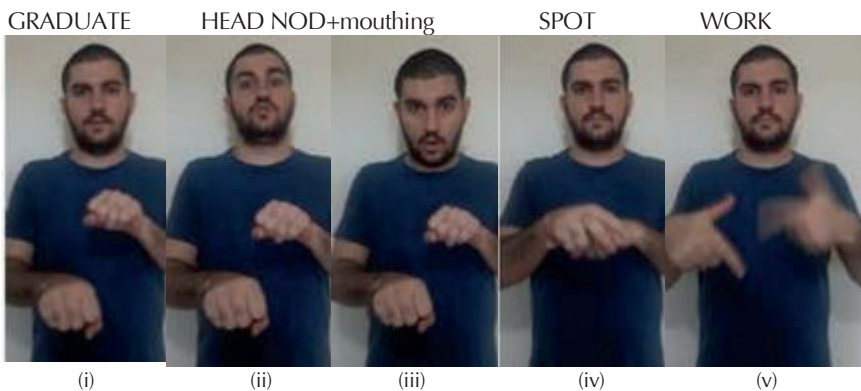
Source: Feitosa (2019), in personal communication

Translation: So when work is done at 7 o'clock, I will come to your house (...)

In the construction in (9), there is a hypotaxis relationship. The first part of the construction, sections from (i) to (vi), concerns the adverbial clause that functions as a timestamp for the matrix clause. No lexical sign indicates this relationship, only the proposition coming from the discursive context, although the temporal hypotactic clause is marked by the sign READY. The event time in the adverbial clause occurs before the event time in the matrix clause.

The following data illustrate temporal adverbial hypotactic clauses marked by a non-manual expression, which comprises a nod and a mouth. In this case, the mouth simulates the articulation of the word ALREADY (JÁ in Portuguese). This non-manual marking is placed in the sentences below after the hypotactic adverbial tense clause. We suggest that this connector brings the notion of irrealis, as the sentence can convey the idea of conditionality. In (9), head nodding and mouthing are illustrated in sections (ii) and (iii); in (10), in sections (iii) and (iv); in (11), in sections (iv) and (v).

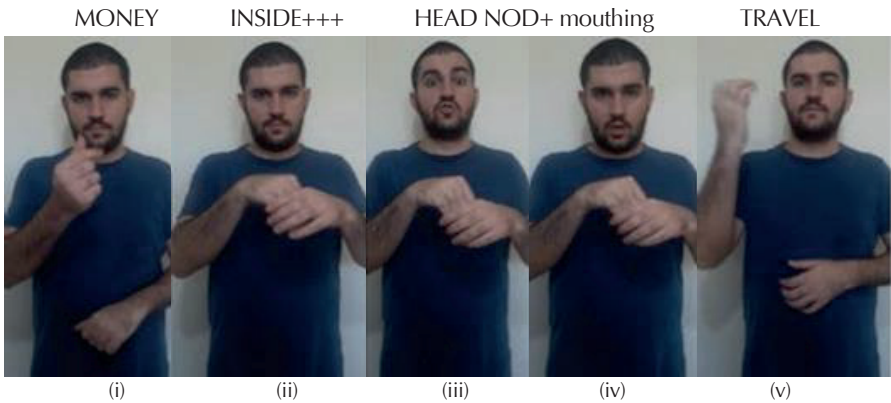
(10) Temporal adverbial hypotaxis (not simultaneous)



Source: KHOURI (2019), in personal communication.

Translation: When I graduate, I will start working.

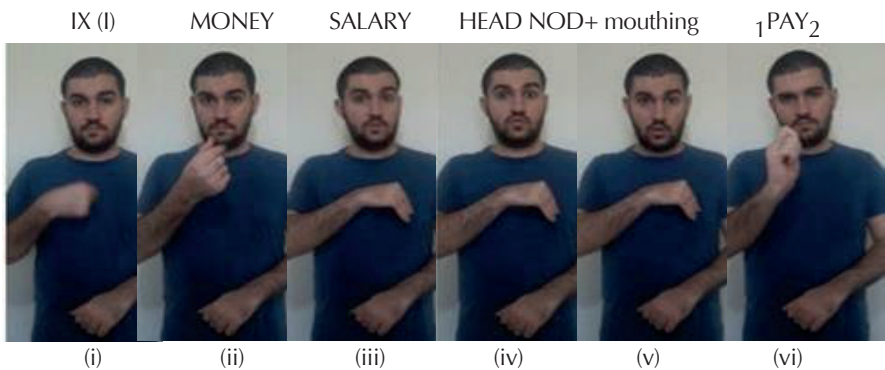
(11) Temporal adverbial hypotaxis (not simultaneous)



Source: KHOURI (2019), in personal communication.

Translation: When I save money, I will travel.

(12) Temporal adverbial hypotaxis (not simultaneous)



Source: KHOURI (2019), in personal communication.

Translation: When I get the salary, I will pay you.

The last type of adverbial hypotaxis articulation presented in this article is condition. According to Lima (2002), conditionality, from a logical point of view, is represented by a binary construction, in which there is a conditioning proposition (protasis) and a conditioned proposition (apodosis). The relationship between these two propositions is represented by “if protasis, then apodosis.” In this case, the conditioning clause is understood as a necessary and sufficient condition for the content expressed in the conditioned clause.

In general, there are three types of conditional adverbial hypotactic constructions: factual (or real), counterfactual (or imagined), and occasional (or potential). Factual constructions relate the content in the real world; in counterfactual constructions, the content expressed by the conditioning clause (apodosis) is imagined, and in the occasional constructions, the content expressed by the conditioned clause (protasis) can happen or not, depending on whether the condition is fulfilled (or not).

Below, the data (13) illustrate a complex construction in Libras, articulated at the level of condition adverbial hypotaxis. The hypotactic clause expresses a conditional relation of the occasional type, has conjunction (sign IF), and a specific non-manual marking (raised eyebrows).

(13) Conditional adverbial hypotaxis



Source: Miranda (2019), in personal communication

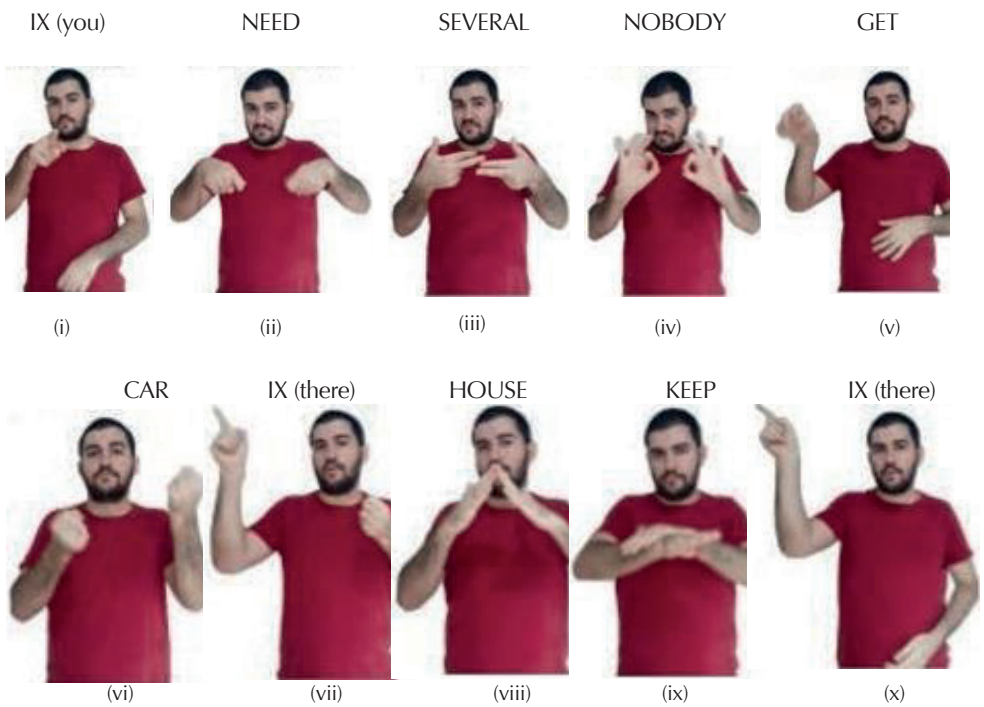
Translation: If possible, send it to me.

There is an adverbial condition hypotaxis relationship in construction (13), above, as mentioned. The first part of the construction,

consisting of sections (i) and (ii), concerns the dependent clause. There is a lexical sign that indicates this relationship (sign IF), and a characteristic facial expression (raised eyebrows), perceived in sections (i) and (ii). The conditioned clause is represented in section (iii).

The data in (14) below illustrate a construction at the adverbial condition hypotaxis level but without a connective, although the construction presents the same non-manual marking as the previous data

(14) Conditional adverbial hypotaxis





Source: Feitosa (2019), in personal communication

Translation: (If) you do not need it, I will get the car and keep it at my deaf friend's house.

In the construction in (14), there is also an adverbial condition hypotaxis relationship. The first part of the construction, sections from (i) to (iv), concerns the dependent clause. There is no lexical sign that indicates this relationship. However, a characteristic facial expression (slightly raised eyebrows) covers entire dependent clause, as was verified in the construction (13).

Our analysis corpus observed the articulation of hypotaxis adverbial condition clauses from a head nod. The head nod seems to fulfill a connective function in articulating clauses in sign languages (TANG; LAU, 2012). This marking takes place with a solid and extended nod, accompanying the second clause to affirm a proposition between the clauses. The data below illustrate the articulation of sentences in Libras from this nod at the level of hypotaxis. The proposition between the clauses establishes a condition relationship (first clause) to effect the following event (second clause).

(15) Adverbial hypotaxis of condition (with a head nod)





Source: Prolibras Edition (2007) – Question 05

Translation: If you have a bilingual school and have a deaf teacher who signs, the deaf child can access Libras early.

The construction above is made up of clauses articulated from a prolonged nod of the head, establishing a relationship of conditionality. The first part of the construction, which corresponds to sections (i) to (vii), concerns the dependent clause and establishes the conditionality. This first part, in turn, is formed by the periods SCHOOL HAVE BILINGUAL and HAVE TEACHER DEAF LIBRAS, which are articulated at the level of parataxis of the additive type, based on juxtaposition. After this first part of the construction, there is the extended nod, which works as a non-manual connective, in sections (viii) to (x), establishing the articulation of the first part with the second part of the construction, which corresponds to the main clause (conditioned).

Once again, the extended nod in the sections from (viii) to (x) works

as conjunction. Thus, it confirms the condition so that the event occurs, encoded in the second part of the construction.

5. Subordination (embedding)

As mentioned earlier, a sentence starts from a predicator that will select its arguments. These, in turn, meet specific criteria required by the semantics of the predicator. By analogy, the same syntactic relationships established in a simple clause will also happen in complex clauses.

The transitivity of the predicator is the fundamental characteristic that will determine the argument structure of the clause. Instead of a term, an entire clause functions as an argument for a predicator in the complex clause case. The embedding phenomenon will meet a syntactic need because the subordinate clauses play an argument role concerning the matrix clause.

There is a complete dependence relationship between the subordinate and matrix clauses in embedding. The dependent clause (embedded) is part of the argument structure of the main clause, and its presence is mandatory, unlike the hypotactic clause, which is part of the discourse but not part of the syntactic structure of the main clause.

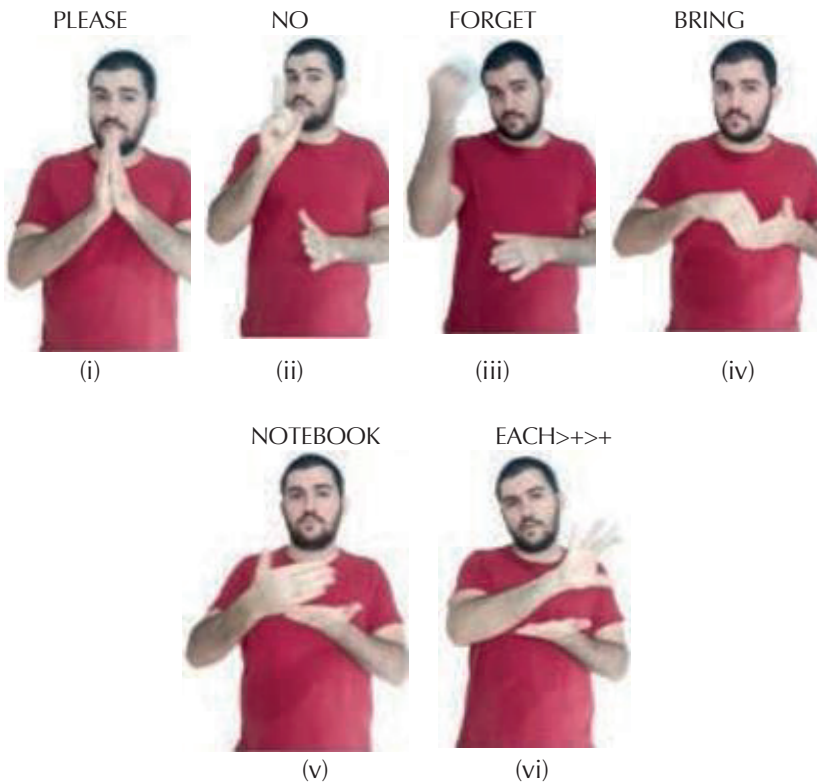
Subordinate (embedded) clauses can function as (i) an argument (subordinate noun clauses), or (ii) a modifier (restrictive adjective subordinate clauses).

Subordinate noun clauses are sentences that perform the same function as a noun within the main clause, occupying the syntactic position equivalent to a noun phrase. In functional terms, they correspond to the argument of a predicate. In the case of a subject clause, a state verb predicates a clause, i.e., a matrix clause predicates a clause with a subject function. The main clause predicates another clause with the object function in the object clause.

Restrictive adjective subordinate clauses function as modifiers, an adjective of the main clause. A language can individualize (modify) a referent through several strategies, which can cover (i) the use of an adjective (a single lexeme), (ii) an adjective phrase, or even (iii) a clause. In this case, a whole sentence becomes the predicator (adjective). Thus, a restrictive adjective subordinate clause, or relative clause, functions as an adjective.

In (16), below, the subordinate clause performs the function of the direct object.

(16) Subordinate noun clause, with object function



Source: Leão (2019), in personal communication

Translation: Please do not forget to bring your computers.

The data (16) is an example of the articulation of clauses by embedding. The matrix clause covers the section (i) to the section (iii), and the subordinate clause, which works as a direct object of the matrix clause, starts in the section (iv) to (vii). The predicate TO FORGET requires a term that functions as a direct object. In this case, this demand is supplied by an entire sentence, starting from the predicate TO BRING. In other words, the second clause is part of the argument structure of the first clause. The articulation takes place by juxtaposition.

The data in (17) below illustrate articulated clauses at the subordination level, in which the dependent clause fulfills the function of the subject of a matrix clause. The articulation takes place by juxtaposition.

(17) Subordinate noun clause, with subject function



Source: Corpus of Libras (2020)

Translation: Positioning is important; it is to have value, much value, for the deaf.

In (17), we have the predicate BE-IMPORTANT, in (iii), which is considered a state verb, as it encompasses the meaning of being important. This predicate requires a subject argument which, in the construction, is

occupied by the predicate DV (standing) (position oneself) in (i). In this way, we see the subject DV (standing) meeting the requirement of the predicate BE-IMPORTANT. The sign IS is observed in (ii), which seems to borrow from the Portuguese language and would form a verbal phrase (to be important).

6. Some considerations

Sign languages, like natural languages, are governed by the same functional principles of clause articulation discussed earlier. In this sense, sign languages can present manifestation patterns to articulate sentences similar to the patterns found in oral languages and patterns of manifestation specific to them, coming from the gestural-visual modality.

According to Tang and Lau (2012), there are few reports of the use of conjunctions in sign languages to articulate sentences. The juxtaposition seems to be a recurrent strategy rather than the presence of explicit conjunction. According to the authors, there are also specific strategies of the gestural-visual modality, such as (i) the alternate use of manual articulators, in which each clause is articulated in one of the hands, (ii) the displacement of the body, and (iii) the nod of the head. Pfau and Stainbach (2016) also mention (iv) the maintenance of the suspended non-dominant hand as another strategy to articulate clauses in sign languages.

Regarding the data presented on Libras, we saw the use of (i) juxtaposition, (ii) conjunctions (hand signs), non-manual markings, such as (iii) facial expressions that involve raising eyebrows and closing the gaze with chin lifting, (iv) prolonged head nodding, (v) head nodding linked to mouthing (ALREADY), and (vi) maintenance of the non-dominant hand (buoy) as clause articulation strategies.

Facial expressions, playing a prosodic role, can also delimit some sentences. In the case of raising eyebrows in hypotactic conditional clauses, its scope seems to encompass the dependent clause. Likewise, in the hypotactic clause of purpose presented, a specific non-manual marking seems to delimit it from a slight elevation of the chin and a discreet closing of the gaze. Regarding the movement of the trunk as a non-manual element, the fact that signers are sitting down in data from Libras corpus can be a limitation of movement trunk in space².

The prolonged head movement to indicate conditionality and the coupled head movement followed by mouthing (ALREADY) to indicate temporality seem to act as (non-manual) conjunctions articulating the

²We thank the anonymous reviewer for this observation.

hypotactic clause to the main clause. The manual conjunctions in the presented data refer to the adversative connective (parataxis) – the sign BUT – and the conditionality connective (hypotaxis) – the sign IF.

The juxtaposition seems to permeate all types of articulation of clauses presented here: parataxis, hypotaxis, and subordination. This phenomenon invites us to analyze the articulation of clauses in Libras from a broad perspective, to go beyond predication and the search for connectives. According to Neves (2001), there are different possibilities of connection between a primary clause element and a secondary clause element. Predication is central to the clause, but paying attention to the proposition established between the sentences during the utterance is essential. Again, meaning relationships between clauses, for example, can happen by juxtaposition, without the need for the obligatory presence of a connective. What is essential for the discourse is the type of proposition that emerges because the connectives make the relationships between clauses explicit but do not determine them.

Regarding the constituents' position, the position of dependent clauses in Libras seems to follow the typological pattern established for the (oral) languages of the world. According to Greenberg (1963), conditional clauses precede conditioned clauses in sentences expressing a condition. The dependent clause follows the main clause in sentences expressing finality, except in languages where the nominal object always precedes the verb. The data presented about Libras follow this typological pattern. Identifying the relationships established in complex clauses is not an easy task.

The clause refers to a syntactic unit that is formed around the verb. However, the clause considering (corp)oral texts has more fluid limits, especially when analyzing language happening, i.e., how language manifests itself in everyday life, because, indeed, a language system dialogues with other systems, influenced by cultural and situational aspects. Furthermore, it is worth mentioning that the syntactic structure is at the service of a larger rhetorical structure.

Other challenges are posed, such as the definitions of nouns and verbs and, consequently, the delimitation of clauses. According to Tang and Lau (2012), linguists who describe sign languages are still challenged to identify objective criteria and a standardized analysis methodology. In our analyses, we followed the phenomenon of predication to delimit sentences. We considered the signs multifunctional, i.e., they cannot be allocated into discrete and rigid categories, in the opposition between nouns and verbs, but

considered in a context of use. Furthermore, translation can lead us to inferences and bias in identifying and analyzing complex constructions in Libras because translations are often based on content approximations. We can, for example, be faced with two independent clauses and not articulated clauses.

Some signs with a time-marking function in a verb phrase can lead the analyst to categorize it as a connective. This seems to be the case with the sign *READY*, for example. Hence the need to develop more objective criteria to define a manual (or non-manual) marker as a connective. As Pfau and Stainbach (2016) suggest, it is necessary to establish tests to help us distinguish dependent/subordinate clauses from independent/non-subordinated structures. Some of these tests are likely to be modality-specific and applied only to sign languages.

The analysis must also verify the prosodic elements. That is why it is essential to analyze data from the language in use, collected and treated in a way that allows us to consider such elements more objectively, such as distinctive pauses and intonation contours. In juxtaposition, for example, two or more clauses are articulated without a formal connective. However, from the intonation point of view, each of the clauses probably has its pattern, differentiating this articulation from other relationships.

Once again, the articulation of clauses must be seen considering the pragmatic, semantic, and syntactic components in the service of the speaker's rhetoric since the connectives show the relationships between the clauses but do not determine them.

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