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## **EXPRESSING SURPRISE AND SURPRISE/DISAPPROVAL IN ITALIAN SIGN LANGUAGE (LIS): SOME PRELIMINARY OBSERVATIONS**

### **1. Introduction**

I present here some observations on the expressions of surprise and surprise/disapproval in Italian Sign Language (LIS). I will compare Italian and LIS, in order to explore the role of multimodality and multilinearity in grammar.

The constructions under discussion are realized in Italian with a peculiar prosodic contour and gestural pattern, which, as shown by Dal Farra and Giorgi (forthcoming) and Dal Farra, Giorgi and Hinterhölz (forthcoming), turn out to be aligned. From an empirical point of view, the authors found a correlation between the distribution of the emphatic pitches in the prosodic component, and the stroke of the hand gesture and head nod. The stroke of the gesture is synchronized with the main accent of the gesture-accompanying utterance. On these issues, see also Kendon (1980), McNeill (1992) and Abner et al. (2015). Dal Farra and Giorgi (forthcoming) and Dal Farra, Giorgi and Hinterhölz (forthcoming) found the same results for special questions in Italian and German.

On the basis of their results, the authors propose a theoretical model that accounts for the empirical data. In the Minimalist approach (Chomsky 1995; 2000; 2001; 2008), the sensorimotor interface and the conceptual interface are not directly connected, in that they are related by means of syntax. The hypothesis proposed is that the special emotional interpretation associated with these sentences, realized by means of typical prosodical and gestural patterns, is triggered by a peculiar syntactic representation. In particular, the input to the sensorimotor component for prosody and gesture realization is unique: they are both triggered by the same syntactic property, i.e. the presence of a left-peripheral *Evaluative* head – a prosody/gesture-oriented head in the sense of Giorgi (2014).

The preliminary observations on counter-expectational and surprise-disapproval questions in LIS I discuss here show that it could be possible to explore the model proposed above for LIS as well<sup>1</sup>.

### **1.1 The data**

To illustrate the evidence taken into account, consider the following examples.

Scenario I: *Mary calls me on the phone and tells me that she has a new red dress to wear at tonight's party. When I meet her at the party, I see that she has a blue gown. I'm surprised and utter (1):*

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<sup>1</sup> The data and results presented by the authors mentioned above have been found in Catalan and Dutch (Crespo Sendra et al., 2013; Borràs-Comes et al., 2013), among the others.

- (1) Ma non era rosso?  
But wasn't it red? (from Giorgi, 2016b, ex. 1)

Scenario II: *I see Gianni with his best trousers kneeling in the dirt in the garden. I think that he will ruin his trousers. I disapprove of his activity and utter:*

- (2) Ma cosa fai?!  
But what are you doing?! (from Giorgi and Dal Farra, to appear, ex. 6)

These constructions are special questions (Munaro and Obenauer, 1999; Obenauer, 2004; 2006) introduced by the adversative particle *ma* (but) and showing a peculiar intonation and gestural pattern associated with the counter-expectational and surprise-disapproval values.

I show that in LIS it is possible to find a characteristic intonational pattern – i.e., a gestural pattern, with manual and non-manual components (see also Goldwin-Meadow and Brentari, 2017) - which can be compared with the one associated to these constructions in oral languages. Finally, I also detected some suprasegmental adversative components functioning as *ma*, an element that is not present in LIS in the same way as in oral languages.

These remarks must be taken as a preliminary pilot work.

## 2. Expressing surprise and surprise/disapproval in oral languages

The so-called *special questions*, see Munaro and Obenauer (1999; 2002) and Obenauer (2004; 2006), are questions that are not interpreted as requests for information. They are used to express an attitude of the speaker towards a certain content, in this case, surprise or surprise with a negative orientation (disapproval). Both types of questions can be introduced by adversative *ma*. Surprise-disapproval questions are open questions, whereas counter-expectational interrogatives are yes/no ones.

To investigate this issue, Giorgi and Dal Farra (forthcoming) propose several scenarios, among which that provided in (1) above and the following one: *I know that you are on a diet and decided to eat only fruit. One day I see you eating a big hamburger. I am surprised and utter (3)*. The speaker requires an explanation for the unexpected. In doing so, the speaker expresses her feelings.

- (3) Ma non mangiavi solo frutta?  
But weren't you eating only fruit? (from Giorgi, Dal Farra forthcoming, ex. 1)

The speaker requires an explanation for the unexpected. In doing so, she expresses her feelings. Note that answering the special yes/no question in (3) with "yes" or "no" would not make any sense in the context provided<sup>2</sup>. Consider now the following example of surprise-disapproval, similar to (2) above: *Gianni should study math, but I see him reading comics. I am annoyed and utter (4)*:

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2 Standard yes/no questions are also defined as "sincere" questions (Soriano, 2006) or "neutral" questions (Roseano, Fernández Plana, 2013). These presuppose the (epistemic state of) ignorance of the speaker seeking for information. On the contrary, in the case of counter-expectational yes/no questions and surprise-disapproval question-exclamatives, the speaker has an expectation.

(4) Ma cosa leggi?!

But what are you reading? (Giorgi, Dal Farra forthcoming, ex. 3)

By means of (4), the speaker is expressing surprise and disapproval regarding Gianni's behavior. Both these types of sentences can be introduced by the adversative particle *ma*. As Giorgi (forthcoming) notes, normally, *ma* cannot introduce a main sentence or an interrogative one, as we can see comparing (5) with (6). In (6) the antecedent of *ma* is provided in the discourse and (6B) is grammatical:

(5) \*Ma non è felice

\*But she is not happy

(6) A: Maria è ricca.

Mary is rich.

B: (Sì), ma non è felice

(Yes), but (she) is not happy (Giorgi, Dal Farra, forthcoming, ex. 5)

These questions are associated with a special intonation and with an (obligatory) gestural component. For these reasons, the authors mentioned above propose a model integrating syntax, prosody, and gestures (see section 1). The emotional value connected to these special questions is due to the interpretation at the sensorimotor interface of an empty evaluative head (Eval) having scope on the whole sentence – headed by the interrogative operator – giving rise to the structures in (7)-(8):

(7) [DIS [CP...]] [ma DIS [EVAL Ø [WH Ø[non mangiavi solo frutta] ] ] ] ]

but weren't you eating only fruit?

(8) [DIS [CP...]] [ma DIS [EVAL Ø [WH che [ fai ] ] ] ] ]

but what are you doing?

According to Cinque (1999), Evaluative adverbials occupy a high position in the hierarchical structure of the sentence and appear on the left of the subject.

There is also another piece of evidence supporting this theoretical hypothesis. Dal Farra and Giorgi (forthcoming) note that some speakers uttering these special questions in the case of a repetition task – they were asked to repeat some surprise-disapproval sentences presented in written forms – spontaneously introduced a swear word<sup>3</sup>. This is not possible in contexts other than rhetorical ones. They propose that in this case, the swear word lexicalizes the *Eval* projection and the *wh*- raises to *Eval*, incorporating it<sup>4</sup>.

Note also that according to Giorgi (2014; 2016; 2018), *ma* is not part of the left periphery, but is a *discourse head*, (DIS), connecting two parts of discourse – see (7) and (8) above.

3 See the mentioned reference and the following section for further discussion.

4 As the authors noted, this conclusion converges with Obenauer and Poletto's (2000) analysis of the position of the *wh*- in special questions. They hypothesize that the *wh*- occupies a higher position with respect to the normal cases.

### 3. Gestural pattern associated with the expression of surprise and surprise/disapproval in oral languages

In this section, I discuss the experiments run by Dal Farra and Giorgi (forthcoming).

In the case of counter-expectational questions two different tasks were used namely, production and elicitation. In the former, participants were asked to repeat some sentences introduced by specific contexts, which were read out loud by the interviewer. After hearing each context, participants were presented with the sentence they had to produce. The sentences were presented in a written form, in order not to suggest a particular intonation. For the same reason, no punctuation was indicated. The participants were asked to utter the sentences in the most natural way, but no information was given on how to express the intended pragmatic meaning so that the production of both prosodic and gestural contours would be as spontaneous as possible. Gestures were not mentioned in the instructions.

In the production task, four different conditions were introduced, since the authors wanted to check whether the gestural pattern could be affected by different modalities:

- Condition A: repetition of the sentences with both hands free;
- Condition B: simulation of a phone communication. Participants were asked to repeat the same sentences pretending to speak with an interlocutor over the phone. In this condition, only one hand was free. The authors wanted to test whether participants gesture even with no visible addressee;
- Condition C: holding a bag. Participants had to utter the same sentences with both their hands blocked. The aim was to check whether the gestural component is carried over by non-manual gestures;
- Condition D: surprise overtly expressed. In this case, the participants had to utter declarative sentences composed by a main-subordinate configuration: “*I’m surprised that ...*”.

In the second task, the authors elicited spontaneous production. The interviewer reads 4 specific contexts meant to introduce a counter-expectational value. After each context, the participants were asked to utter an appropriate sentence as a reaction to that context. The only instruction was: “Say it in the most natural way”.

The participants were 15 Italian speakers (9 females and 6 males) for the repetition task. 6 of them were asked to produce the sentences in all the conditions presented above, whereas 3 participants for each Condition A, B and C were asked to complete the test only under that condition plus Condition D. 8 of the 15 speakers participated also in the elicitation task. In this case, the elicited production was tested first, in order to avoid priming. The experimenters proposed 6 contexts to participants, and 6 consequent counter-expectational questions (or declarative, in the case of condition D) for each condition, except for condition B, which was tested only in only 2 out of 6 sentences.

In the case of surprise-disapproval questions, the same methodology was applied. The participants were 8 (4 females and 4 males). 6 contexts have been presented to participants, and 6 consequent surprise-disapproval questions: every participant had to utter 6 sentences.

Let’s briefly consider the results of these experiments. The authors found that the prosodic contour is peculiar for each type of special question and differ from the ones of standard interrogatives in Italian.

Considering the gestural patterns, the authors found that with counter-expectational questions, the majority of the participants (in the 72% of the cases) realize these sentences with the so-called Palm-Up Open Hands (PUOH, Kendon, 2004), as shown in Figure 1<sup>5</sup>.



Figure 1: Realization of *palm-up open hand* gesture.

In this case, PUOH often lasts longer than the sentence itself. Indeed, speakers tend to start articulating the gesture before the very beginning of the sentence and tend also to hold it until the very end of the sentence.

The authors found also non-manual gestures accompanying counter-expectational questions. These concern the use of the head and of brows. The head can either be employed in a shake, usually over the negation or lasting a bit longer, nod, or move forward. Brows can either be raised and/or furrowed in different moments of the sentences (Figure 2 and Figure 3).



Figure 2: Brows raised

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<sup>5</sup> All the figures in this section are provided by Dal Farra and Giorgi (forthcoming).



Figure 3: Brows furrowed

Dal Farra and Giorgi (forthcoming) note also that the head of the speaker moves forward and to the side. Moreover, palm-up can be realized with one hand only, interestingly, the non-dominant one (Figure 3).

I summarize now the results presented by the authors:

- Condition A: in the 72% of the utterances, speakers realize the hand gesture as palm-up, in the 13% of the cases the hand gesture is different, whereas in the 15% hands stand still. Occasionally, the speakers tend to enrich the interpretation of the sentence, connecting it not only to surprise but also to disapproval. In these cases, the hand gesture is different and tends to follow the surprise-disapproval gestural pattern that I will describe below.
- Condition B: also, in this case, the experimenter noted the presence of the palm-up gesture although less frequently, i.e. in the 41% of the cases. In this condition, the speaker has a phone in one of his/her hand, thus the gesture is realized with one hand only. Both the dominant and the non-dominant hand is used. As for non-manual gestures, the most used are brows furrowing and head shake. It is present also the movement of the shoulders, namely, the shoulders are moved in a higher position during the utterance of the whole sentence, unlike condition A
- Condition C: in this case the hands were blocked, holding a heavy bag. However, interestingly, in several cases hands and arms are moved in an attempt to produce the PUOH gesture, even if it cannot be completed. As in Condition B, many speakers also lift their shoulders during the production of the sentence. Also, in this case, head shake and brows furrowing are used more frequently, than in the first condition. The authors conclude that when the hand gesture is blocked in some way, speakers tend to convey the same meaning by means of different gestures.
- Condition D: PUOH is less used than in condition A but is still highly produced – i.e. in the 51% of the cases. The hand gesture is realized mostly in correspondance with the matrix sentence. Unlike all the other conditions, there are no other hand gestures other than PUOH.

In the elicitation task, in the majority of the spontaneous answers the sentences began with the adversative particle *ma*, namely in 14 cases out of 21. Moreover, some of the elicited sentences were structurally identical to the ones used in the experiment, i.e. *adversative particle + negation + imperfect verbal form*. In these cases, the gestural pattern and the intonational contour are the same as the ones described above.

In case of surprise-disapproval sentences, the authors found that the speakers realize one among the three different gestures following: PUOH (Figure 4), artichoke gesture (Figure 5) and hands in prayer configuration (Figure 6).



Figure 4: *palm-up gesture* with iterated movement.



Figure 5: *artichoke gesture*.



Figure 6: *hands in prayer*.

In each case, the main characteristic is the presence of iterated movement. The hands are rapidly and repeatedly moved upwards and downwards or side-to-side. The preparation of these gestures begins after the adversative particle *ma* and is realized in correspondence either with the *wh*-constituent or with the verb.

Non-manual gestures - furrowed brows and head movements - are used less than in the case of surprise questions. The head can be moved forward or to the side. The authors note that the occasional presence of furrowed brows signals the presence of a disapproval component, analogously to what observed in the counter-expectational questions discussed above.

#### 4. Gestural pattern associated with the expression of surprise and surprise/disapproval in LIS. Preliminary observation

For the investigation of counter-expectational and surprise-disapproval questions in LIS, I adapted the methodology illustrated above.

I had the opportunity to interview prof. Carmela Bertone, a native Italian/LIS bilingual speaker, who kindly answered my questions, signed for me and discussed with me part of the results<sup>6</sup>.

As far as counter-expectational questions are concerned, I elicited spontaneous production. I read 5 specific contexts meant to introduce a counter-expectational value. After each context, the signer was asked to sign an appropriate sentence as a reaction to that context. The only instruction was: "Sign it in the most natural way". For surprise-disapproval question-exclamatives I applied the same methodology. The contexts were provided in Italian. I proposed just one condition, i.e. both hands-free. In case of sign language, in fact, some of the experimental conditions devised for oral languages are unsuitable, due to the visual-gestural modality.

I found that in the case of counter-expectational questions the prosodic contour is peculiar, differing from the one associated with the standard yes/no interrogatives in LIS, namely raised brows.

For example, consider what my informant signed for the following scenario: *You know that your friend Gianni is on a diet and decided to eat only fruit. One day you see him eating a big hamburger. You are surprised and sign.* See the example in (9) and the related Figure 7<sup>7</sup>.

counter-expectational

(9) IX<sub>2p</sub> DIRE (MANGIARE) SOLO FRUTTA<sup>8</sup>

'Did not you tell me that you only ate fruit?'

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<sup>6</sup> I would like to thank Carmela Bertone for her very valuable contribution.

<sup>7</sup> The figures are mine.

<sup>8</sup> Small capitals (glosses) are used to represent signs, whereas the lines over the glosses indicate the presence of non-manual markers. The extension of the line over the manual glosses indicate the distribution of the non-manual features.





counter-expectational

Figure 7: FRUTTA

In figure 4 the signer does not use the expected expression for standard yes/no interrogatives (See figure 8).



y/n

Figure 8<sup>9</sup>: STAI BENE

‘Are you ok?’

Consider now the second sentence the signer produced spontaneously in the same context (10):

surprise

(10) IX-loc PE IX<sub>2p</sub> MANGIARE PANINO

‘Are you eating that sandwich?’

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<sup>9</sup> Figure 8 is from <https://www.spreadthesign.com/it.it/search/> (2019-02-14)



surprise

Figure 9: (IX<sub>2p</sub>) MANGIARE PANINO  
 You eating a sandwich

The sentence in (10) is not a yes/no question. The signer knows that Gianni is actually eating a sandwich. (10) is accompanied by the expression of surprise that overlaps the whole sentence. The brows are clearly raised, the eyes are widened and lips with the corners downward<sup>10</sup>.

Summarizing, the expression associated with counter-expectational questions is: widened eyes and moving mouth downwards. Furrowed brows yield the adversative interpretation. In fact, this feature lacks in the case of expression of “mere” surprise (see Figure 9), but it is present in the case of counter-expectational questions, as Figure 7 above shows. The counter-expectational prosodic contour is spread over the whole sentence.

Concerning the gestural pattern, as seen in the previous section in the case of counter-expectational contexts, the speakers articulate the PUOH gesture. PUOH does not appear among the gestures of my informant. Presumably, this is due to the fact that the signer’s hands are otherwise engaged.

Consider now the following scenario for surprise-disapproval: *You see Gianni with his best trousers kneeling in the dirt in the garden. You think that he will ruin his trousers. You disapprove of his activity and sign.*

The informant signed the sentence in (11) followed by the artichoke gesture, which yields the surprise-disapproval value (see Figure 10):

(11) PANTALONI SPORCO

‘You are getting dirty your trousers’

<sup>10</sup> See Pfau, Steinbach, and Woll (2012) for an overview of facial expressions in sign languages.



Figure 10: Artichoke gesture

Thus, as far as surprise-disapproval is concerned, it turns out that the artichoke gesture is present in LIS as well. The artichoke gesture can be articulated with one or both the hands.

Also in the case of the context illustrated above, my informant enriched spontaneously the interpretation of the sentence. She added to (11) the sentence in (12) related to the Figure in (11) :

(12) IX<sub>2p</sub> PAZZO  
'You are crazy'



Figure 11: PAZZO

The sentence in (12) is followed by the hands in prayer gesture (see figure 12):



Figure 12: Hands in prayer gesture

Thus, in LIS I found two of the three typical gestures found by Dal Farra and Giorgi (forthcoming) for Italian: the so-called artichoke gesture and the hands in prayer gesture. In both cases gestures presented an iterated movement. Moreover, even surprise-disapproval questions turn out to have a peculiar prosodic contour, i.e. furrowed eyebrows and squinted eyes.

As a further consideration, let me point out that in several cases surprise and surprise-disapproval values co-exist.

Consider the following scenario, meant to introduce counter-expectational value: *You know that Gianni is allergic to cats, one day you see him with a big cat in his arms. You are surprised and sign<sup>11</sup>.*

In this context my informant signed (13):

(13) (IX<sub>2p</sub>) GATTO- IN-BRACCIO IX<sub>2p</sub> ALLERGICO IX<sub>2p</sub>  
'Weren't you allergic to cats?'

In Figure 13 we can see the co-existence of counter-expectational (facial expression) and surprise-disapproval (gestures) values.

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11 The expected sentence in Italian would be (i):

(i) Ma non eri allergico ai gatti?  
'But weren't you allergic to cats?'



Figure 13: Artichoke

In this case, in fact, the signer's eyes are not squinted and the mouth is slightly downwards. The surprise expression is "tempered" by the presence of disapproval. Disapproval is yielded by the artichoke gesture.

Concluding, I found that special questions in LIS have a peculiar intonation. They seem also to have peculiar gestural patterns, resembling in some way the one of oral languages. However, further work is required<sup>12</sup>.

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12 According to Mazzoni (2008a; 2008b; 2009) LIS show evidential (suprasegmental) morphemes. They are characterized by a peculiar prosodic contour. The contexts I discussed are evaluative contexts. Also in the latter case, we deal with a peculiar prosodic intonation. Cinque (1999) claim that these phenomena interest the left periphery of the sentence. This consideration might be addressed in future researches.

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