

'The boys (mp) have gone (mp) to church.'

If both an acc. clitic and the aux. essere are present, the past part. agrees with the clitic for most Italians:

- (8) I ragazzi se le sono comprate.
'The boys (mp) bought (fp) them (fp) for themselves (mp).'

2.0. The Filter. The filter at issue here is exemplified in Ss in which a Q floats across a clitic. First, note that tutt- floats freely across clitics when there is no past part. present.^{2,3}

- (9) I ragazzi le vogliono tutti vedere.
'The boys want all to see them.' (all the boys)

Second, tutt- floats freely across all clitics that do not call for agreement of the past part.³

- (10) I ragazzi le hanno tutti parlato.
'The boys have all spoken (unmk) to her (fs).'

However, problems arise when tutt- floats across a clitic with which the past part. makes agreement. In (11) tutt- lands to the right of the agreeing past part. and the S is grammatical. In (12) tutt- lands to the left of the agreeing past part. and the S is rejected:

- (11) I ragazzi le hanno viste tutti.
(12)*I ragazzi le hanno tutti viste.
'The boys have all seen them.'

That agreement of the past part. is a crucial factor in rejecting (12) is clear from Ss in which we have a non-third person acc. clitic. Recall that past part. optionally agree with such clitics. In (13) the past part. does not agree and the S is fine. In (14) the past part. does agree and the S is questionable:

- (13) I ragazzi ci hanno tutti visto.
(14)?I ragazzi ci hanno tutti viste.
'The boys have all seen us.'

We find that (14) is distinctly better than (12), but both are not good. The explanation for this difference lies in the fact that the listener hears that the clitic le in (12) is f.p. from its phonetic shape. However, the clitic ci in (14) is heard⁴ only to be plural; its gender is not known until the listener hears the agreement on the past participle. That this

is the crucial difference is clear from Ss in which we have elision of a singular third person clitic. Elision is optional with certain clitics for most Italians. The G/N of the unelided third person singular clitic is heard. But only the N of the elided third person sg. clitic is heard. We see in (15) and (16) that the S with an unelided clitic is worse than the S with the elided clitic:

(15)*I ragazzi la hanno tutti vista.

(16)?I ragazzi l'hanno tutti vista.

'The boys have all seen her.'

Thus if both the G and N of the clitic are heard, the S is worse than if only the N of the clitic is heard.

Likewise if both the G and N of the subject are heard, the S is worse than if only the N is heard:

(17)*Noi ragazzi le abbiamo tutti viste.

'We boys (mp) have all seen them.'

(18)?Noi le abbiamo tutti viste.

'We have all seen them.'

In Italian subject pronouns drop unless they receive an intonation peak. Thus noi may drop from (18), leaving an S that is just as questionable:

(19)?Le abbiamo tutti viste.

Now if both the subject and the clitic do not have phonetic shapes which are distinct for both G and N, the S is fine:

(20) (Noi) vi abbiamo tutti viste.

'We have all seen you.'

2.1. Since the mechanism operating here follows the phonological rule of elision, this mechanism cannot be a constraint on the syntactic rule of QF, as long as we assume that syntactic rules precede phonological ones. Let me call this mechanism a surface phonetic filter. Before stating this filter, we need to define some terms. First, let us say that a solid agreement line links elements both of whose G/N endings are heard and which agree with each other, as in (21):

(21) Le ho viste.

'I saw (fp) them (fp).'

Second, a dotted agreement line links elements which agree for G/N but of which at least one does not have an

audible G, as in (22):

- (22) Vi ho viste.
'I saw (fp) you (p).'

We can now state the filter thus:

No Crossing Filter: If a solid agreement line crosses a solid agreement line, the S is bad. If a solid agreement line crosses a dotted agreement line, the S is marginal.

The operation of this filter is illustrated below:

- (23) (=11) I ragazzi le hanno viste tutti.
(24) (=12)*I ragazzi le hanno tutti viste.
(25) (=14)?I ragazzi ci hanno tutti viste.
(26) (=19)?Le abbiamo tutti viste.
(27) (=20) (Noi) vi abbiamo tutti viste.

In (23) no solid line crosses any other line, so the S is good. In (27) only dotted lines cross, so this S is fine, also.⁵

2.2. Two modifications to the proposal offered in 2.1 must be made. First, agreement lines link not only elements which agree with each other but also elements which agree with the same trigger, as in (28):

- (28) Vi abbiamo viste nude.
'We saw you nude.'

With this ad hoc extension of the way agreement lines are drawn, the star on (29) and the question mark on (30) follow from the No Crossing Filter.

- (29)*I ragazzi ti hanno vista tutti nuda.
'The boys have all seen you nude.'

- (30)? Ti abbiamo vista tutti nuda.
'We have all seen you nude.'

Second, a dotted agreement line links elements agreeing for G only but not for N.⁶ Ciascun- is a Q which agrees with the NP it quantifies for G only, but is always singular:⁷

- (31) Ciascuna donna ha ricevuto un fiore.
'Each woman has received a flower.'

- (32) Ciascuna delle donne ha ricevuto un fiore.
'Each of the women has received a flower.'
- (33) Le donne hanno ciascuna ricevuto un fiore.
'The women have each received a flower.'
- (34) Le donne hanno ricevuto ciascuna un fiore.

Ciascun- is linked to its NP by a dotted line. Thus the No Crossing Filter explains the acceptability markings of (35) and (36):

- (35)?Le donne li hanno ciascuna provati.
'The women have each tried (mp) them (mp).'
- (36) Le donne ne hanno ciascuna comprati tre.
'The women have each bought three of them.'

Finally, note that the No Crossing Filter mentions neither past participles nor floated Qs, although every example given thusfar has both. From (37) we see that a past part. need not be present for this filter:⁸

- (37) a.*I ragazzi le volevano tutti vedere nude.
'The boys all wanted to see them(fp) nude(fp).'
- b.*I ragazzi le volevano vedere tutti nude.

Here the adjective nude is linked to the clitic le by a solid agreement line which crosses the solid line linking tutti to i ragazzi.

I know of no Ss to illustrate the filter that do not have a floated Q. It seems that the pattern abab where the a's agree and the b's agree does not arise except in Ss with floated Qs. By not mentioning floated Qs in the statement of the filter I am predicting that if an S with the required pattern abab can be constructed without a floated Q, the filter will apply.

3.0. Implications. There are at least two interesting questions presented by the phenomenon seen above. First, why should criss-crossing agreement patterns (as in (12)) be rejected when nested agreement patterns (as in (11)) are accepted? Kuno (1972) mentions that criss-crossing double dislocation in English yields a lower degree of acceptability than embedded dislocation.⁹ Ross (personal communication) has noted similar results on double dislocation in English.

While the filter above gives a mechanical and empirically adequate way of assigning acceptability to the relevant Ss, this filter is purely descriptive. No explanation for the existence of such a filter has been offered. The fact that the filter assigns different degrees of acceptability to Ss according to how "strong"

the crossing agreement lines are from a phonetic point of view suggests two possibilities. First, one might propose that the filter is basically a "euphony" one. That is, it measures how good or bad a S sounds, with the standard that abab is worse than abba. Many speakers have told me that this is precisely the explanation they feel intuitively to be correct. However, an explanation for why abab sounds worse than abba is still lacking.

Second, one might propose that the filter is basically a semantic one. The phonetic forms of the elements involved convey semantic information in that the G/N of an element tells us something about its referent or about the NP it agrees with. Thus G/N endings supply semantic information. If the filter is semantic in nature, the claim of such a filter is that criss-crossing information leads to a less acceptable S than noncriss-crossing information. With this same proposal, we can account for both Kuno's (1972) and Ross's (personal communication) observations about double dislocation. Furthermore, we can predict that a S such as (38), in which we find the pattern abba, where the second a is an extraposed relative clause and the first a is its head, will be better than a S such as (39), in which we find the pattern abab, where the second a and the second b are both extraposed relatives.

(38)?There's not much difference between pain relievers that you can buy that you can see.

(39)*There's not much difference between pain relievers that you can see that you can buy.

For me the prediction holds; (39) is almost incomprehensible while (38) is merely clumsy.¹⁰

The second question presented by this phenomenon is whether the No Crossing Filter is a simple surface filter or is global in nature. Since the filter follows the phonological rule of elision, it operates after the phonological component of the grammar. However, it can discern agreement lines. The question, then, is whether agreement lines can be "drawn" with access to information present in the surface only or whether access to earlier information is needed.

Since Qs appearing between Vs can be positioned there only by way of floating off the subject, one might propose a surface strategy to link floated Qs to their NPs. I have not been able to find any convincing arguments against such a strategy. Note that we need to allow an agreement line to be drawn to the deletion site in (40) in order to explain its marginal acceptability¹¹.

(40)?I ragazzi hanno promesso al professore

di averla tutti capita per domani.

'The boys promised the professor to have all understood it by tomorrow.'

This fact is no surprise in light of Ss with subject pronoun drop, such as (26).

However, it is not possible to draw the agreement lines between adjectives and the clitics they modify with surface information only. Consider (41) -(44):

(41)*I ragazzi la volevano (tutti) vedere infelici.

(42) I ragazzi la volevano (?tutti) vedere infelice.

'The boys all wanted to see her unhappy.'

(43)*I ragazzi la volevano (tutti) visitare sudante.

(44) I ragazzi la volevano (tutti) visitare sudanti.

'The boys all wanted to visit her sweating.'

In (41) and (42) the adjective following vedere can modify the clitic only and not the subject. Thus (41), in which the adjective is plural but the clitic is sg., is bad since it has no corresponding well-formed underlying structure; but (42), in which both the adjective and the clitic are sg., is good since it corresponds to a well-formed underlying structure.¹² In (43) and (44) the adjective following visitare can modify the subject only and not the clitic. Thus (43), in which the adjective is sg. but the subject is pl. is bad, while (44), in which both the adjective and the subject are pl, is good. If we look now at these same Ss but change the clitic from f.s. to f.p., we find the following facts:

(45) I ragazzi le volevano (?tutti) vedere infelici.

'The boys all wanted to see them unhappy.'

(46) I ragazzi le volevano (tutti) visitare sudanti.

'The boys all wanted to visit them sweating.'

The adjectives in both Ss are pl. and both adjectives are not phonetically distinguishable for gender, thus the phonetic shape of the S cannot tell us whether the adjective modifies the subject or the clitic. However, which element the adjective modifies is clearly relevant once QF has applied. In (45) we see that the S is questionable if tutti appears between volevano and vedere, but in (46) the presence of tutti is acceptable. The N \bar{o} Crossing Filter accounts for the difference, since the solid line linking i ragazzi with tutti crosses the dotted line linking le with infelici in (45) but does not cross any other line in (46). In order to draw these lines the element modified by the adjective had

to be identified--but the surface phonetic and structural information alone cannot tell us which element is modified by the adjective in (45) and (46) without allowing surface structure strategies to duplicate the entire syntactic component of the grammar in reverse. Only at an earlier stage are the two Ss structurally different. Thus the lines must be drawn with access to this earlier stage.

In conclusion, the No Crossing Filter, while applying after the phonological component of the grammar, has access to earlier information no longer present in surface. Thus this filter is global.

Footnotes

*Thanks go to Dave Perlmutter, Susumu Kuno, and Ken Hale for suggestions and criticisms.

① Paul Postal is, I believe, the first to have used the term Quantifier Floating in various lectures. For a discussion of QF in French see Kayne (1969) and Fauconnier (1973).

② There is one mind-boggling exception. If tutt- floats across an acc. clitic having the same G/N as the subject (tutt-'s NP), tutt- can be understood as quantifying the clitic only and never the subject:

(i) I ragazzi li vedono tutti.

'The boys see all of them.'

Kimball (1973) offers some principles of surface structure parsing to account for the lack of ambiguity in Ss in English involving extraposed relative clauses and other phenomena. Briefly, he would (I think) explain the lack of ambiguity in (i) by saying that tutti must be understood as quantifying the closest (linearly) possible entity, which in (i) is li. Regardless of why (i) is not ambiguous, let us just note that it is not.

Likewise, if tutt- floats to a position in which it precedes an object NP of the same G/N as the subject with the definite article, it can be understood as quantifying the object only and never the subject:

(ii) I ragazzi comprano tutti i fiori.

'The boys buy all the flowers.'

The mind-boggling part of all this is that if tutt- floats across an acc. clitic of the same G/N as the subject and lands in some position between Vs, the S is ungrammatical:

(iii)*I ragazzi li vogliono tutti comprare.

'The boys(mp) all want to buy them(mp).'

Remember that tutt- cannot float leftward off an object in Italian. Thus tutti in (iii) cannot have originated

to the right of comprare. The only way tutti in (iii) can have been positioned as it is is by floating rightward off the subject. Thus no potential ambiguity can arise in (iii), in contrast to (i) and (ii). Yet (iii) is rejected. I have no idea why. Some speakers have told me that they can interpret (iii) only with the reading in which tutti quantifies li and therefore has floated leftward out of object position, an ungrammatical move. Note that tutt- is fine when it lands between Vs and there is a full NP object with the same G/N as the subject:

(iv) I ragazzi vogliono tutti comprare i fiori.

'The boys all want to buy the flowers.'

Keeping these facts in mind as an exception, in general tutt- can float freely across clitics if there is no past participle present.

① We will see later that this is not an accurate account. The S should read, "Tutt- floats freely across clitics when there is no agreeing past part. or other element agreeing with the clitic present".

② By saying a certain feature is 'heard' I mean that the speaker recognizes this feature because the phonetic shape of the element is unique with respect to this feature. This definition of 'heard' is transderivational in nature since the speaker must compare the given phonetic shape of an element to all other possible phonetic shapes of that same element in order to recognize its uniqueness with respect to the feature at issue.

③ Note that if the acc. clitic is reflexive, the S is acceptable with QF even though our system would say that a solid line crosses a dotted line:

(i) I ragazzi si sono tutti vestiti in fretta.

'The boys have all dressed themselves in a hurry.'

This evidence may suggest that past participles do not agree with reflexive clitics; but rather that in (i) the past part. is agreeing with the subject (since the aux. is essere), in which case no solid agreement line is crossed:

(ii) I ragazzi si sono tutti vestiti in fretta.

④ I know of no elements which agree for N only but never for G (that is, elements with a fixed G but agreeing N).

⑤ Many but not all Italians allow ciascun- to float. An even smaller number of Italians allow ognun- 'every' to float. All the observations made below with respect to ciascun- hold for ognun- as well in the varieties of Italian that allow ognun- to float.

⑥ (37b) is slightly worse than (37a). It appears that when both ab pairs of the pattern abab (where the a's

agree and the b's agree) are adjacent with no intervening elements, the \bar{S} is worse than when one of the pairs is split up. In (37a) tutti and nuda are separated by vedere, while in (37b) they are adjacent.

②Kuno attributes this observation to Arlene Berman.

③These Ss can't be tested in Italian since relative clauses don't extrapose in Italian.

④Note that if QF is a cyclic rule, there is no problem in explaining the presense of tutti in (40). But there is some evidence that QF is not cyclic. Note that QF cannot apply under a causative V:

(i) Faccio cominciare (*tutti) a studiare i ragazzi.
'I make (all) the boys begin to study.'

(i) with tutti cannot be ruled out by a simple surface filter which rejects Ss in which floated Qs appear to the left of their NP, as seen in:

(ii) Sono tutti partiti i ragazzi?

'Have all left the boys? = Have the boys all left?'

Since the rule which yields an infinitive immediately following the causative V (seen in (i)) is cyclic (cf. Napoli (1974)), QF cannot be cyclic.

Likewise, QF cannot apply before wh-question formation:

(iii) *Cosa hanno tutti comprato i ragazzi?

'What have all bought the boys?' (all the boys)

If wh-question formation is not cyclic (a hypothesis that I cannot test here), then QF cannot be cyclic.

Now if QF is not cyclic, but rather postcyclic, (40) raises important questions as to the operation of subject complement deletion and the structure of Qs.

⑤Note that (42) is questionable with tutti in floated position because of the No Crossing Filter. The line linking la and infelice is a dotted one since infelice is phonetically sg. but one cannot hear the G. If we had nuda in place of infelice in (42), the S would be bad with floated tutti:

(i) I ragazzi la volevano (*tutti) vedere nuda.

References

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