

Auxiliary selection is person Agree: splits in Italian and in Italo-Romance varieties

Irene Amato, Universität Leipzig

Overview In this paper I address the problem of auxiliary selection (the alternation between BE and HAVE as auxiliaries in the perfect (Bjorkman 2011: 126)) in Standard Italian and in Southern Italo-Romance varieties. In the former, the auxiliary depends on the argument structure (Sorace 2000, Bjorkman 2011), in the latter on the person feature of the subject (Tuttle 1986, Manzini & Savoia 2005). However, in both systems, the features of the arguments play a crucial role. I argue that auxiliary selection is the result of person Agree in both systems. The analysis relies on the concept of *Nested Agree*, a principle that affects the search domains of ordered probes. This proposal unifies both types of auxiliary selection under the operation Agree. Moreover, it derives cross-linguistic variation via reordering of features.

Data In Standard Italian, the perfective auxiliary is HAVE for transitive verbs (1-a), BE for unaccusative verbs (1-b). If the (in)direct object is the reflexive clitic *si*, the auxiliary switches to BE (2-a). The unexpected auxiliary BE emerges also with impersonal *si* (2-b).

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| (1) a. Maria ha lavato la mela.
Maria have.PRS.3SG wash.PRTC the apple
'Maria has washed the apple.' | (2) a. Maria <i>si</i> =è lavata.
Maria SELF=be.PRS.3SG wash.PRTC
'Maria has washed herself.' |
| b. Maria è caduta.
Maria be.PRS.3SG fall.PRTC
'Maria has fallen down.' | b. <i>Si</i> =è lavata la mela.
IMPERS=be.PRS.3SG wash.PRTC the apple
'One has washed the apple.' |

An example of person-driven system is Ariellese (D'Alessandro & Roberts 2010): local person subjects always select for BE, third person subjects for HAVE, independently on the argument structure, even in reflexive clauses and in restructuring. The opposite alternation (HAVE, HAVE, BE) is attested in the varieties of Aliano and Morcone (Manzini & Savoia 2005).

Proposal Previous analyses for auxiliary selection consider either the external argument (Bjorkman 2011) or the features on v (D'Alessandro & Roberts 2010) as the constraining factor, failing to derive the switch in (2) (and in restructuring). In contrast, the data shows that the features of the object are relevant: if an object is present, we get HAVE; if either there is no object, or the object is ϕ -defective, then we get BE. I argue that the head Perf (a functional head located between v and T, which brings in the perfective semantics) bears a person probe $[u\pi:]$. π on Perf is realized as root selection (not as inflection), given the lexical entries in (3) for Standard Italian, where α represents any person value.

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| (3) a. $/\sqrt{\text{HAVE}}/ \leftrightarrow \text{Perf}[\pi:\alpha]$ | b. $/\sqrt{\text{BE}}/ \leftrightarrow \text{Perf}(\text{elsewhere})$ |
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However, a problem of minimality arises. The π -information on v (and on the object) is not local to the head Perf. At least the external argument intervenes as a closest goal. To solve this minimality problem, I propose a constraint on ordered instances of Agree, which I call *Nested Agree*.

(4) *Nested Agree*

Let F_1 and F_2 be two ordered probes on the same head H. The search space of F_1 is the c-command domain of H.

(i) If the Agree operation A_1 for the feature F_1 has targeted the goal G, then the subsequent Agree operation A_2 for the feature F_2 must also target G.

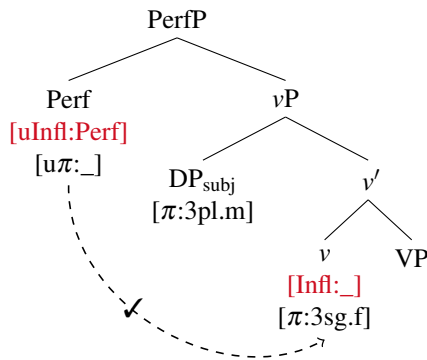
(ii) If G is not a goal for F_2 , the search space of F_2 is the c-command domain of G (not of H).

Given the assumption that the features on the same head are extrinsically ordered (Müller 2009,

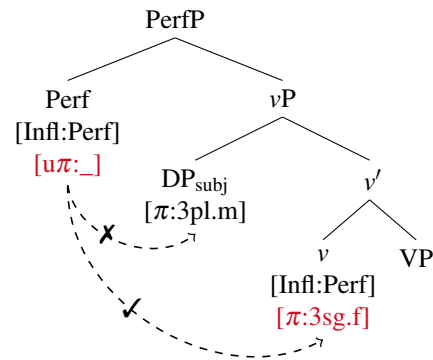
Georgi 2014), a probe initiating an operation after another probe located on the same head should pick out the same goal as the preceding probe. If this is not possible, then the probe starts its search exactly from the goal of the previous operation, without going back to already skipped positions. Thus, a potential intervener lies outside of the search domain of the probe, if its domain has been “reduced” by a previous operation. Nested Agree belongs to a class of principles such as *Maximize Matching Effects* (Chomsky 2001: 15), *Multitasking* (Van Urk & Richards 2015: 132), *Economy condition on multiple probe satisfaction* (Pesetsky 2019: 27). It contributes to an ongoing discussion on the conditions on Agree for multiple probes and on intervention effects.

Analysis I argue that the order of the probe features on Perf in Standard Italian is $[u\text{Infl:Perf}] \succ [u\pi: _]$. Evidence for $[u\text{Infl}]$ is the form of the participle (Adger 2003).

(5) Step 1: Agree for $[u\text{Infl:} _]$



(6) Step 2: Nested Agree for $[u\pi: _]$



In (5), Agree for $[u\text{Infl:} _]$ on Perf targets the closest c-commanded matching goal, v . The second operation is Agree for $[u\pi: _]$ in (6): $[u\pi: _]$ searches into v , exploiting the already established channel between Perf and v . If v contains $[\pi]$, Agree stops. Otherwise, $[u\pi: _]$ goes on downward from this more embedded position, without going back to any item higher than v . If Agree is successful, HAVE is inserted (according to (3)). Instead, the unmarked BE emerges because of failed Agree or Agree with π -defective elements. The former is the case of unaccusative verbs (1-b): assuming that defective v is not a probe for the π -feature, no c-commanded matching goal is found by Perf (the object has already moved and its trace is not PIC-accessible, if every v is a phase). The latter is the case of reflexive *si* (2-a): assuming that the anaphor enters the derivation with an unvalued π -feature, Agree for $[u\pi: _]$ on transitive v , and consequently on Perf, fails. The analysis for impersonal *si* is similar (assuming that *si* bears an unvalued person feature).

Moreover, I argue that cross-linguistic variation arises by reordering of features (Georgi 2014).

- (7) a. Perf $[u\text{Infl}] \succ [u\pi] : \pi$ value from v Standard Italian
 b. Perf $[u\pi] \succ [u\text{Infl}] : \pi$ value from DP_{subj} Southern dialects

In the Southern dialects (7-b), the person probe on Perf goes first and targets the DP_{subj} in spec, v , which is the highest matching goal. The lexical entries are specified for different π -values, reducing the difference within person-driven systems to morpho-phonology (examples in (8) and (9)).

- (8) *Arielli* (1:BE, 2:BE, 3:HAVE) (9) *Aliano, Morcone* (1:HAVE, 2:HAVE, 3:BE)
 a. $/\sqrt{\text{HAVE}}/ \leftrightarrow \text{Perf}[\pi: \text{-part}]$ a. $/\sqrt{\text{HAVE}}/ \leftrightarrow \text{Perf}[\pi: \text{+part}]$
 b. $/\sqrt{\text{BE}}/ \leftrightarrow \text{Perf elsewhere}$ b. $/\sqrt{\text{BE}}/ \leftrightarrow \text{Perf elsewhere}$

Conclusion Valency based and person-based auxiliary selection are due to different feature orderings, but share the same syntax. The analysis can account for all cases of auxiliary selection in Standard Italian both in root clauses and in restructuring and it is compatible with an analysis of participle agreement based on edge features. Nested Agree has further potential applications

outside the domain of auxiliary selection (cf. subject agreement in VOS structures in Spanish).

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