Scalar implicatures like object A'-dependencies: feature inclusion in early grammars.

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Background. Scalar implicatures (SIs) and their acquisition represent a challenge for linguistic theorizing: no unanimously accepted account has been provided yet for either their heterogeneous developmental process (Foppolo & Guasti 2005) or the mechanism underlying their derivation (for an overview: Chemla & Singh 2014). Within this theoretical debate, an interesting proposal has been put forth by Chierchia (2013), whose grammatical interpretation describes SIs as a process of agreement between scalar items and a silent operator (Op), both carrying some dedicated feature:

(1) $Op_{[scalar\ feature]}$ [I saw $some_{[scalar\ feature]}$ students.]

In fact, focusing on the <*some*, *all*> scale, we observe that children become sensitive to the scalar reading of *some* as *some but not all* (instead of the "logical" *some and maybe all*) around the age of six, which is also considered a developmental turning point for child competence with complex morphosyntactic configurations, e.g., object A'-dependencies with intervention via featural inclusion (Friedmann et al. 2009).

Theoretical proposal. In this work, we provide a new perspective on SIs arguing for a syntactic, criterial interpretation of the phenomenon in order to satisfy some Scalar Criterion (in the sense of Rizzi 2013) and trigger the correct inferential reading. The derivation proposed by Chierchia in (1) is reworked and schematized below in (2):

(2) $[_{TP}$ I saw $[_{ExhP}$ $Exh_{[scalar]}$ $[some_{[scalar]}$ students]]]

As (2) shows, the criterial operation is carried out by checking the [scalar] feature, which is found both on the quantifier *some* and on a silent functional head within the TP layer that we named Exh. Such label recalls the "Exhaustification" process discussed by Chierchia (2013) and much previous studies, i.e., the process of insertion of a silent *only* that is traditionally used to describe SI derivation. We assume that the two instances of the [scalar] trait enter Agree: the covert raising of *some* to the specifier of ExhP determines the criterial Spec-head configuration, and in turn the scalar interpretation of the quantifier is obtained.

Predictions. Such derivation is problematic for children if paired with other operations connected to the scalar term at issue: e.g., Quantifier Raising (QR) required by the quantificational nature of *some*. Assuming that QR is carried out on a higher phrase (QP) dedicated to scalars (*à la* Beghelli & Stowell 1997), the complete derivation is shown in (3):

(3) $[_{QP}$ $Q_{[scalar,\ quant]}$ $[_{TP}$ I saw $[_{ExhP}$ $Exh_{[scalar]}$ $[some_{[scalar,\ quant]}$ students]]]]

The structural and featural configuration of Exh triggers an intervention effect as predicted by featural Relativized Minimality (Rizzi 2004): the inclusion of its feature in the set of traits checked by the probe is held responsible for blocking the operation in child grammars,

similarly to what has been observed for object A'-dependencies (Friedmann et al. 2009). Therefore, we propose that children neglecting the scalar reading of *some* are in fact adopting a strategy to avoid feature inclusion: they ignore the [scalar] feature – on *some* and on Exh – and only check [quant] for a "logical" reading of the quantifier. In this sense, we relate Friedmann et al.'s (2009) account for object *wh*-questions to the case at issue: as much as bare *wh*-items are favoured over lexically restricted *wh*-items because their featural configuration distinguishes them from competing subjects and prevents intervention effects, similarly children opt for the logical reading of *some* instead of its scalar counterpart, thus obtaining no locality violation but crucially also no implicature derivation.

Discussion. The syntactic characterisation of SIs as a grammar-driven process corroborates the hypothesis of their local, incremental nature, as suggested by both theoretical (Chierchia et al. 2011) and experimental studies (Chemla & Spector 2011). Also, it shows that the complexity blocking *some*-SI in child grammars is not related to SI derivation *per se*, but rather to structural interactions: a welcome conclusion, considering that SIs are not acquired as a whole at six years, but rather different kinds of scales appear at different acquisitional stages (e.g., numeral vs. aspectual scales, see Papafragou & Musolino (2003)). Of course, the outlined criterial view for *some*-SIs calls for a similar account for other lexical scales, as well as the possibility to extend the scalar/non-scalar reading to similar inference-triggering quantifiers, as existential *a* and distributive *each*. Finally, the parallel with object A'-dependencies may offer new perspectives in the study of language impairments, both in the understanding of deficits that have traditionally been ascribed to pragmatics, and in the description of morphosyntactic deficits characterising aphasia (Grillo 2008) and a number of other neurodegenerative pathologies (Boschi et al. 2017).

Selected bibliography:

Chierchia, G. (2013): *Logic in Grammar*. Oxford, UK: OUP.
Friedmann, N., Belletti, A., & Rizzi, L. (2009): Relativized Relatives: Types of Intervention in the Acquisition of A-bar Dependencies. *Lingua*, 119, 67-88.
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