IF DISTRIBUTIVITY IS VARIABLE BINDING, SCOPE RECONSTRUCTION MUST BE SYNTACTIC

Yiannis Katochoritis
MIT

• **Synopsis:** I present a new argument from Modern Greek (MG) for the syntactic nature of scope reconstruction, based on its LF-connectivity effects. The argument relies on Clitic Left Dislocation (CLLD) of a non-quantificational DP that may receive a distributive or non-distributive reading, whereby only the former feeds Condition C. I propose that the distributive reading obtains via binding of a covert contextual variable within that DP by a surface-lower Quantifier Phrase (QP), enforcing reconstruction to a position c-commanded by the QP. I show that CLLD can be derived via Internal or External Merge, each option restricted to systematic structural and interpretive effects, incl. islands, resumption, anaphors, crossover and case-marking, evident in trapping environments, with implications for copy theory and argument structure.

• **Syntactic reconstruction:** Fox (1999) argues that Condition C speaks in favor of syntactic accounts of scope reconstruction, and against semantic type-shifting operations, because scope reconstruction feeds Condition C connectivity. If binding theory is sensitive to LF-structures, only a syntactic account explains why reconstruction is impossible in (1): a moved QP that must be interpreted at its prior lower site contains an R-expression that is meant to be co-indexed with a pronoun c-commanding that launching site.

(1) $[_{QP}$ ... R-expression$_1$ ...$]_2$ ... pronoun$_1$ ... t_2

• **Main puzzle**: Well-studied instances of (1) involve reconstruction of a moved QP for binding of an overt variable. I present a novel construction from MG CLLD, where a fronted *non*-quantificational DP scopally interacts with a lower QP, and contains an R-expression meant to be co-indexed with an embedded pronoun that c-commands that DP's θ-site. I argue that a pattern identical to (1) holds, except that binding is now covert and serves as part of the implicit domain restriction. Sentence (2), with a referentially unspecified *pro* subject of 'said', is ambiguous between two readings: a distributive (= for each professor x there is a grade y s.t. x was told that y should change, i.e., multiple grades) and a non-distributive (= there is a grade x s.t. each professor was told that x should change, i.e., a single grade). Crucially, co-reference of *Janis* with the null subject of 'said' is only possible under the non-distributive reading. The rough idea is this: if the distributive reading requires the CLLD-ed DP to fall under the scope of the universal QP at LF, then a lower copy, c-commanded by the *pro* of 'said', must be activated, inducing Condition C connectivity.

(2) [***O vaθmos tu Jani***]$_k$, *kseris* [*oti* pro *ipe* *se* ***kaθe kaθiɣiti*** [*oti prepi* [*na alaksi* ___$_k$]]]
the grade of Janis know.2SG that said.3SG to **each professor** that must SBJV change.3SG
'Janis' grade, you know that *pro* said to each professor that (the grade) must change.'

• **Semantic proposal**: I suggest that an implicit, contextually supplied atomic variable *C*, of type <e<et>>, takes a silent *e*-type pronoun as its argument and returns an <et> predicate that composes via Predicate Modification (Heim & Kratzer 1998) with the nominal restrictor. The *C* variable receives a value from an assignment function *g*, corresponding to a set (or property), which is then intersected with the set (or property) denoted by the NP restrictor; it thereby restricts the DP's domain via assignment of a function from professors to the set of assigned grades. The QP then undergoes (local) QR and binds the silent pronoun via Predicate Abstraction if the pronoun is assigned the same index as the QP's trace, yielding a reading "for every professor x there is a (different) grade of Janis y such that x assigned y". The variable may in principle be free, if carrying a distinct index, in which case the non-distributive reading obtains.

(3) $[[C]]^g = g(4) = \lambda x.\ \lambda y.$ y is a grade assigned by x & y is a grade of Janis

• **Syntactic proposal**: Whether CLLD involves movement (Kayne 1994; Angelopoulos & Sportiche 2019) or base-generation (Cinque 1990; latridou 1990) is debated. For MG, I propose that both options are available, but associated with distinct structural effects, and that the clitic that doubles the CLLD-ed DP accordingly instantiates a "true" or "apparent" resumptive (Aoun et al. 2001). First, I show that CLLD *can* involve movement because reconstruction for variable binding is possible but island-sensitive. Then, I argue that the distributive reading hinges on reconstruction of the CLLD-ed DP and not on QR of the QP, due to QR's local A'-profile: as a QP cannot bind a pronoun within a CLLD-ed DP that is associated with a resumptive clitic across an island (4), the distributive reading only obtains after reconstruction of the DP and therefore requires movement; c-command of only a true resumptive by the QP is insufficient.

(4) #[***O eθizmenos ɣos tis***$_i$]$_k$, ***kamia mitera***$_i$ *ðe fadastike* [*poso θa* ***tu***$_k$*=stixize o dʒoɣos*]
the addicted son her no.F mother NEG imagined how.much FUT **3SG.M.DAT**=cost.3SG the gambling

'Her$_i$ addicted son, no mother$_i$ imagined how much gambling would cost him.' (WH-ISL.→weak crossover)

• **Meaning is structure**: The choice of base-generation or movement determines interpretation: if the CLLD-ed DP is separated by an island from its θ-position (filled by a resumptive *pro*) (5), no Condition C arises, but the distributive reading becomes unavailable, presumably due to absence of a lower copy.

(5) [***O vaθmos tu Jani***$_i$]$_k$, *evɣalan* [*ti fimi pos* pro$_{i/j}$ *zitise apo* ***kaθe kaθiɣiti*** *na* **pro**$_k$ *anevi*]
the grade of Janis took.out.3PL the rumor that ____ asked.3SG from **each professor** SBJV go.up
'John's grade, they spread the rumor that *pro* asked each professor that (it) raises.' (CNPC→single grade)

Three derivations are then considered for (2): (i) External Merge at the surface site, where the *C* variable never falls under the scope of the QP or *pro*, enforcing a non-distributive reading and obviating Condition C; (ii) (successive-cyclic) Internal Merge, where the distributive reading (a) may or (b) may not obtain, depending on whether the variable carries or not the same index as the QP; still, *pro* must be referentially disjoint from *Janis*; (iii) the one illicit derivation where a distributive reading co-occurs with co-indexation of *Janis* and *pro* due to mutually exclusive requirements. That option (ii.b) exists (i.e., non-distributivity but still Condition C) is shown via Condition A: in (6), even in a non-distributive context of doctor-child pairs, the CLLD-ed DP *must* reconstruct for local anaphor binding to a position c-commanded by *pro*.

(6) [***Ta pedja tu Jani***$_i$]$_k$, *akusa pos* pro$_{*i/j}$ *ipe se* ***kaθe ɣiatro*** *oti* ___$_k$ *misun* ***ton eafto tus***$_k$
the kids of Janis heard.1SG that ____ said.3SG to **each doctor** that hate.3PL **the self their**
'Janis' kids, I heard that *pro* said to each doctor that (they) hate themselves.' (anaphor binding → Cond. C)

That distributivity hinges on the distinction between External and Internal Merge is supported by making the CLLD-ed DP the object of the most deeply embedded verb: if it appears in accusative (7a), with its θ-case signaling movement, the distributive reading is possible but island-sensitive, while co-reference between *pro* and *Janis* is disallowed; if it appears in (default) nominative, as base-generated hanging topic (7b), Condition C can be obviated and island-sensitivity disappears, but the distributive reading is lost.

(7) a. [***Ton vaθmo tu Jani***$_i$]$_k$, pro$_{*i/j}$ *ipe se* ***kaθe kaθiɣiti*** [*oti* pro$_{*i/j}$ ***ton***$_k$*=perimene* ___$_k$]
the.ACC grade of Janis, ____ said.3SG to **each professor** that ____ **3SG.M.ACC**=expected.3SG
'Janis' grade, *pro* said to each professor that *pro* expected (it).' (ACC → *n*-grades ✓ - apparent resumpt.)

b. [***O vaθmos tu Jani***$_i$]$_k$, pro$_{i/j}$ *ipe se* ***kaθe kaθiɣiti*** [*oti* pro$_{i/j}$ ***ton***$_k$*=perimene* ___$_k$]
the.NOM grade of Janis ____ said.3SG to **each professor** that ____ 3SG.M.ACC=expected.3SG
'Janis' grade, *pro* said to each professor that *pro* expected (it).' (NOM → 1 grade only - true resumpt.)

• **Condition C is ubiquitous**: Even if an intermediate reconstruction site is available between *pro* and the QP for the distributive reading (t_k'), Condition C is not bled. If Condition C is an "everywhere" LF-condition (Belletti & Rizzi 1988), a mover leaves an LF-visible copy at every (intermediate) step on its path, regardless of distributivity. The same will be shown to hold for A-movement (passive and raising).

(8) [***Ton vaθmo tu Jani***$_i$]$_k$, ***kaθe kaθiɣitis*** *iksere* [**t**$_k$***'*** *oti* pro$_{*i/j}$ *ðe θa* ***ton***$_k$*=anexti* **t**$_k$]
the.ACC grade of Janis each professor knew.3SG that ____ not will 3SG.M.ACC=tolerate.3SG
'Janis' grade, each professor knew that *pro* will not tolerate (it).' (ACC→Cond. C irrespect. of distributivity)

• **Further implications**: If the distributive reading obtains via variable binding, it should be sensitive to weak crossover (WCO). Indeed, with ditransitives (9), a distributive reading is possible if the indirect object QP appears as a bare dative, which c-commands the direct object in the base structure, but not as its PP counterpart, where the base order of objects is reversed, and QR across the theme would be required.

(9) [***To kokino forema***]$_k$, *i Maria* ***to***$_k$*=takse* ***tis kaθe filis tis*** **t**$_k$ **/ t**$_k$ ***se kaθe fili tis***
the red dress the Maria **3SG.N.ACC**=pledged.3SG **DAT each friend her to each friends her**
'The red dress, Maria pledged it to each friend of hers .' (DAT QP IO → binding - PP QP IO → WCO)

Similarly, while the distributive reading of a derived passive subject is still not possible with a PP recipient QP, it *is* with a *by*-agent QP (10). I take this as an additional argument that the *by*-phrase in MG is merged as an argument, not an adjunct, c-commanding the θ-position of the theme (Angelopoulos et al. 2020).

(10) ***O vaθmos tu Jani*** *akiroθike* ***apo kaθe kaθiɣiti*** **/** *stalθike* ***se kaθe kaθiɣiti***
the grade of Janis was.cancelled **by each professor** was.sent **to each professor**
'Janis' grade was cancelled by each professor (*n*-grades ✓) / was sent to each professor (1 grade only)'.

Finally, while the distributive reading is marginal in (11), presumably due to WCO, it *is* acceptable with object-experiencer psych-predicates (12). Crucially, Landau (2010) argues that such object experiencers are locative arguments which undergo LF A-movement, akin to locative inversion, to an outer specifier of the projection hosting the surface subject. If so, the contrast follows: the theme QP independently A-moves across the subject only under the psych-predicate, whence it can feed variable binding.

(11) ***O va*θ*mos tu Jani*** *ekse*θ*ese* ***ka*θ*e ka*θ*i*χ*iti***
the grade of Janis exposed **each professor**
'Janis' grade exposed each professor.' (1 grade)

(12) ***O va*θ*mos tu Jani*** *anastatose* ***ka*θ*e ka*θ*i*χ*iti***
the grade of Janis upset **each professor**
'Janis' grade upset each professor.' (*n*-grades ✓)