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ReCoS: Rethinking Comparative Syntax

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Part Two: Null Arguments and the Structure of Pronouns

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Outline

- Types of NSLs (Roberts & Holmberg 2010)
- Assimilating radical and partial NSLs (Barbosa 2014)
- Extension to consistent NSLs
- Arbitrary pronouns
- Connection to Longobardi's (2008) Person hierarchy

Roberts & Holmberg (2010): four kinds of NSL

- Consistent (Italian, Spanish, Greek, etc.)
- Expletive (German, Dutch, various creoles, etc.)
- Radical (e.g. East Asian languages)
- Partial (Brazilian Portuguese, Hebrew, Finnish, etc.)

Consistent null-subject languages

- *Italian:* bevo, bevi, beve, beviamo, bevete, bevono
- "I/you/he/we/you/they drink"

- *Greek:* pino, pinis, pini, pinume, pinete, pinun
- "I/you/he/we/you/they drink"

Radical pro-drop languages

- 1. -- kanjian ta le [Mandarin]
- (he) see he ASP

- 2. Ta kanjian – le.
- He see (him) ASP

- (But NB Li 2014 on restrictions on both null subjects and null objects in Mandarin)

Partial null-subject languages

1. (Minä) puhun englantia. [Finnish, Holmberg (2005)]
   I speak-1sg English
2. (Sinä) puhut englantia.
   You speak-2sg English
3. *(Hän) puhuu englantia.
   He/she speak-3sg English
4. (Me) puhumme englantia.
   We speak-1pl English
5. (Te) puhutte englantia.
   You speak-2pl English
6. *(He) puhuvat englantia.
   They speak-3pl English

Intervention effects (Holmberg et al 2009)

1. Jari sanoo että lapset uskovat että *(hän) kävi tohttorilla.

   Jari says that children believe-Pres.3pl that he vist-Pst-3sg doctor

   “Jari says that the children believe that he went to see the doctor.”

   [Finnish]

Holmberg's Other Generalisation (HOG)

1. Täällä ei saa polttaa. [Finnish]
   Here not may smoke.

2. Qui non **si** puo' fumare. [Italian]
   Here not SI can smoke

3. Apoghorevete to kapnisma. [Greek]
   Prohibit-3sg-mediopass the smoking

Consistent NSLs: Labelling and mini/maxi-mality

- 1. The label L of category A is minimal iff A dominates no category B whose label is distinct from A's.
- 2. The label L of category B is maximal iff there no immediately dominating category A whose label is non-distinct from B's.

- → incorporation can take place only where the features of the incorporee are properly included in those of the incorporation host.

- (NB this is compatible with Chomsky's (2013) Labelling Algorithm).

Consistent NSLs: incorporation

- “given the characterisation of incorporation …, copying the features of the defective goal exhausts the content of the goal. Therefore the operation is not distinguishable from the copying involved in movement. In the case of incorporation, then, Agree and Move are formally indistinguishable. This means that we can think of the deletion of the copies of the features of the goal in terms of chain reduction, i.e. the deletion of all identical copies in a dependency except the highest one (see Nunes 2004:22f.)” (Roberts 2010:66).

Analysis of consistent NSLs (Roberts 2010)

1. **Defective goal**: a goal G is defective iff G's formal features are a proper subset of those of G's probe P.

2. Trigger for Agree:

P[[Pers:−−], [Num:−−]] .. G[[Pers:a], [Num:b]]

Outcome of Agree:

P[[Pers:a], [Num:b]] .. G[[Pers:a], [Num:b]]

Consistent NSLs

- T[phi, D] …. pro[phi, D] -- pro-incorporation allowed → null subject

- English: T[phi] … pro[phi,D]

- pro is not a defective goal wrt T → no incorporation → no null subject
- (NB how the Rizzi/Jespersen intuition that consistent NSLs have "pronominal agreement" is maintained here)

Analysis of partial NSLs (Holmberg 2010)

- Basic case: T[phi] …. pro[phi] -- pro is indefinite

1. Jari sanoo että tässä istuu mukavasti. [Finnish]
   Jari says that here sits comfortably
   "Jari says that **one** sits comfortably here."
2. João me contou que na praia vende cachorro quente. [BP]
   João me told that at.the beach sell-3sg dog hot
   "João told me that **hot dogs are sold** at the beach."

“Control” into finite clauses

1. Jari sunoo että – istuu mukavasti tässä. [Finnish]
   “Jari says that **he** sits comfortably here.”
2. João me contou que --- vende cachorro quente na praia. [BP]
   “João told me that **he** sells hot dogs on the beach.”
   T[phi] … pro[phi, uD]

- Pro moves to SpecTP and gets valued by a higher [iD] DP (possibly via C, Landau 2005 etc.) and then values T (NB definite interpretation here).
- Person restriction: pro gets valued by 1st/2nd -person features in C (“speech features in the sense of Sigurðsson 2004, Kratzer 2009, etc.)

Analysis of radical NSLs (Saito 2009)

- Null arguments as ellipsis :

1a. Hanako-wa [zibun-no teian-ga saiyoorsareru to] omotte iru.
H-TOP self-GEN proposal-NOM accepted-be that think
"Hanako thinks that her proposal will be accepted."

1b. Taroo-mo [– saiyoosareru to] omotte iru.
T-also accepted-be that think
"Taroo also thinks that his/her proposal will be accepted."

- (1b) allows a sloppy reading → gap not pro.

Why no null arguments/argument ellipsis in English?

1a. John brought [$_{DP}$ his friend].

b. *But Bill did not bring --- .

- Here LF-copying copies a Caseless DP → v can't probe as it's inactive → *[uF} on v.

2a. Taroo-wa [$_{DP}$ zibun-no tomodati-o] turete kita.
T-TOP self-GEN friend-ACC brought
"Taroo brought his friend."

b. Demo Hanako-wa --- turete konakatta.
but H-TOP brought not
"But Hanako did not bring her friend."

Saito (2009:15)

- "the grammaticality of [(2b)] indicates that the v in this example lacks uninterpretable phi-features, which amounts to saying that object agreement is not obligatory in the language. Thus, even if LF copying is an operation that is available in any language, Kuroda's (1988) agreement parameter correctly predicts the absence of argument ellipsis in English as well as its presence in Japanese".

Barbosa (2014:3)

"the pattern of pro-drop found in partial NSLs has more features in common with discourse pro-drop than with rich agreement pro-drop."

Generic inclusive arbitrary pro in radical NSLs

1. Ah John waa hai Jinggwok jiu gong Jingman.
   [Cantonese]
   Prt John say in England need speak English
   "John says that one/he needs to speak English in England."

2. John-wa kono beddo-de-wa yoku nemu-reru-to iu.
   J-NOM this bed-in-TOP well sleep-can say
   "John says that one/he can sleep well in this bed."

(See also Holmberg 2014 on Thai).

Intervention effects in radical NSLs

1. Zhangsan$_i$, [[e$_i$ xihuan de shu] hen duo].
   [Mandarin]
   Zhangsan like DE book very plenty
   "Zhangsan, the books he likes are many."

2. *Zhangsan$_i$, wo kan-guo [e$_i$ xihuan de shu].
   Zhangsan I see-GUO like DE book
   "Zhangsan, I like the books he likes."

Tomioka (2003)

- Discourse pro-drop generalisation:

The languages that allow discourse pro-drop – Japanese, Chinese, Korean – allow (robust) bare NP arguments.

- Structure of null arguments:

[DP Ø [NP *pro*]]

(Li 2014 suggests this is right for Mandarin but that Japanese has no DP layer at all).

Partial NSLs allow bare NPs

- Finnish:

1. Isä osta-a auto-n
   Father-NOM buy-3sg car-ACC
   "The father buys a/the car."

- Marathi (Holmberg et al 2009):

2. polis-An-nI cor pakaD-I-A
   police-pl-ERG thief.M catch-PERF-M
   "The police caught the thief."

- Also Russian, Brazilian Portuguese, Hebrew (the latter two with some provisos)

Barbosa's conclusions

- "Partial pro-drop as well as discourse pro-drop involves null NP anaphora" (Barbosa 2014:5).

- Partial/radical NSLs vs. consistent NSLs ("a subcase of the Polysynthesis Parameter")

The nature of null arguments

- [NP e] "may be further embedded under a null Number or Classifier head, or even under a null D, depending on the language and the context" (Barbosa 2014:6).
- Differences between radical and partial NSLs derive from the nature of the "article system", i.e. the realisation/presence of functional heads in the extended projection of N above N (DP).

An extension to consistent NSLs

T[phi,D] … [$_{DP}$ D[phi] … [$_{NP}$ pro/e]] -- D-to-T incorporation as before

- Here [$_{NP}$ pro/e] is prevented from having other properties of radical/partial NSLs as it's **locally licensed by D's phi-features**.
- Rizzi (1986): arbitrary null objects with no special morphology (HOG), and in complementary distribution with object clitics.
- Presence of phi on D must be linked to Case.

Kinds of null subject (/argument)

- **Radical**: [DP Ø[-phi] … [NP pro]]

NB here T can't have [uPhi] as it would never be valued.

- **Partial**: T[phi, uD] .. [DP (D)[±phi] … [NP pro]]

variation in nature of D's phi-features here

- **Consistent:** T[phi,D] … [DP D[phi] … [NP pro]]

-- D-to-T incorporation as before

- **Non NSL**: T[phi] … [DP D[phi] … [NP pro]]

-- D-to-T incorporation blocked as before; D spelt out as a pronoun

The pro-drop/null-subject parameter (hierarchy)

- Distribution of null arguments derives from two interacting factors:

(i) Formal features (phi, D) of T

(ii) Formal features (phi) of D

- These can naturally be put into hierarchies.

Apparent non-NSLs: [NP pro/e] in English

- We saw that NSLs are in general out in English since D[phi] can't incorporate to T[phi]
- But is there a situation where T lacks phi? Yes: non-finite clauses.
- Is there a situation where D lacks phi? Indefinite D with no Number (giving a mass interpretation; Borer 2005) and no Person (giving a default inclusive interpretation).
- In such a situation, if [NP pro/e] is a variable, an Operator will be required to bind it.

Properties of "arbitrary PRO"

a. To abduct Earthlings is good fun. ("conscious-being" interpretation)

b. To have answered rudely (I think it was Fred) was a mistake. (Qu-∃)

c. To have worked so hard yesterday afternoon was a mistake. (Qu-∃)

d. To leave late would be a mistake. (Qu-∀)

e. To have left late yesterday afternoon was a mistake. (1pl)

- (e) illustrates the default 1pl interpretation which arises with an internal-argument arb in a specific/bounded temporal/aspectual context (Cinque 1988, D'Alessandro 2007). But NB the inclusive interpretation is available everywhere except where cancelled as in (b).

Cinque (1988): two arb-interpretations

- **"Quasi-universal"** (Qu-∀) arbitrary pronouns have the following properties:

a. incompatibility with specific time reference, e.g. present perfect;

b. incompatibilty with the existence of a single individual satisfying the description;

c. no restriction to the external argument.

“Quasi-existential” (Qu-∃) pronouns

a. compatibility with specific time reference;

b. compatibility with the existence of a single individual satisfying the description;

c. restriction to the external argument.

The "bound-variable" interpretation

a. [PRO_{arb} to be] or [PRO_{arb} not to be], that is the question.

b. [PRO_{arb} becoming a movie star] involves [PRO_{arb} being recognised by everyone].

c. #[PRO_{arb} becoming a movie star] involves [PRO_{arb} recognising you]. (Jaeggli 1986)

GENx (be(x) v ¬ be(x)) (otherwise it's not much of a question)

Sensitivity of the bound-variable interpretation to islands

a. It's nice [PRO_{arb} to be read [stories about [PRO_{arb} being beaten at football]]].

b. It's nice [PRO_{arb} to be spoken to by [people who know about [PRO_{arb} being beaten at football]]].

c. It's common [PRO_{arb} to be convinced that [[PRO_{arb} being beaten] is bad].

-- here, where the two PROs are separated by an island, the bound-variable interpretation isn't required.

Sensitivity to content of C

Incompatibility with *for* in C:

a. *For to abduct Earthlings is fun.

b. Darth taught us how (*for) to abduct Earthlings.

- A GEN operator in C licensing/attracting PRO_{arb} (Chierchia 1995, Moltmann 2006).
-

English *one*

Linked/bound-variable reading:

a. One often worries that one shouldn't eat meat.

b. One is always pursued by one's admirers.

Bound-variable reading with PRO_{arb} (Moltmann 2006:261):

c. [PRO_{arb} to walk home] means that one cannot afford a cab.

Weak crossover

a. *His$_i$ mother should always say that one$_i$ is good.

b. One$_i$ should always say that his$_i$ mother is good.

(Roberts 1987, Moltmann 2006)

- Moltmann: *one* is the overt version of PROarb

Islands

a. It's nice [for one to read [stories about [one('s) playing football]]].

b. It's nice [for one to meet [people who know about [one('s) playing football]]].

c. It's common [for one to believe that [[one('s) smoking] is bad].

- Suggests licensing by a GEN operator without movement (Moltmann 2006), while PROarb seems to involve movement.

The Finnish G-pronoun (Holmberg 2010)

Can be an internal argument:

a. Täällä vanhenee nopeasti.
   Here ages fast
   “Here one ages fast.”

b. Sitä huolestuu helposti.
   EXPL get.worried easily
   “One gets worried easily.”

The Finnish G-pronoun

Equivocal re the Qu-∃ reading (Anders Holmberg, p.c.):

a. Tässä tuolissa istuu mukavasti. #Tavallisesti Jussi.
this chair-INE sits comfortably Usually Jussi.
*In this chair, sits comfortably. It's usually Jussi.

b. Täällä sai uida eilen iltapäivällä.
here could swim yesterday afternoon
"You were allowed to swim here yesterday afternoon."

Weak-crossover effects

*Hänen äitinsä kuuluu aina sanoa että on hyvä.
his mother should always say that is good

- Broadly very similar to *one* and PRO_{arb}, and so licensed by GEN.

Brazilian Portuguese NS (Barbosa 2014)

1. Aqui conserta sapato.
   here repair-3sg shoe
   "One repairs shoes here."

Gen*s* [here (*s*) & C(*s*)] ∃*x* [repair (s, *x*, shoe) & human (*x*)]

"In every contextually relevant situation happening here, there is shoe-repairing going on" (see Chierchia 2005); Barbosa (2014:7).

Conclusion on quasi-universal arbs

a. Are not sensitive to argument/ grammatical-function status;

b. have bound-variable interpretations;

c. show weak-crossover effects;

d. in some cases, show island-sensitivity.

Quasi-existential arbs: sensitivity to the external argument

- 3pl arb in Spanish (Jaeggli 1986):

1. llaman a la puerta.
   Call.3pl at the door.
   "They're calling at the door"
2. Fueron asesinados por criminals.
   Be.3plPST assassinated by criminals
   "They were assassinated by criminals."

- No arb reading available for non-external arguments

Quasi-existentials don't show the bound-variable interpretation

a. For them to win this game, they must master the endgame.
b. If they're allowed to sell cigarettes (*?I think it's Mr Smith), they can sell alcohol too.

- (*They* inclines to the Qu-∀ interpretation here, marginally)

English arbitrary *they*

a. They sell cigarettes at gas stations.
b. They don't allow dogs on the beach.
c. They are arrested all the time by the police.
d. They exist without any water on this planet.

(Jaeggli 1986)

- No arb reading available for non-external arguments

Conclusion on quasi-existential arbs

- Two ideas:

1. Featural relativized minimality (Starke 2001, Rizzi 2001, 2013)

2. This interpretation is licensed by unselective binding by T (T has generic/existential temporal properties, which can license a generic existential arb)

FRM: In the configuration

X … Y … Z …

where each element asymmetrically c-commands the next, going from left to right, Y prevents X from interacting with Z for property P just where X and Y both have property P. Following Starke (2001), P can refer to some (possibly composite) featural property.

T-licensing of quasi-existential arb

a. T_i [$_{vP}$ arb_i [$_{VP}$ .. – arbitrary external argument: nothing intervenes between T and arb, so licensing is possible

b. Internal arb argument of a passive:

*T_i [$_{vP}$ EA [VP .. arb_i … – implicit EA intervenes and is licensed, blocking licensing of IA arb by T

c. Internal arb argument of an unaccusative:

*T_i … Ev … [$_{VP}$ .. arb_i … – low Event argument intervenes, blocking licensing of IA arb by T

Two ways of licensing arb

- GEN Operator (A'-dependency)
- Unselective binding by T (A-dependency)

- These are independent of the overt/null distinction (as English *one* and *they* show), but they interact with how [$_{NP}$ pro/e] is licensed giving the various arbitrary interpretations.

Recall "control" in partial NSLs

1. Jari sanoo että tässä istuu mukavasti. [Finnish]
   Jari says that here sits comfortably
   "Jari says that **one** sits comfortably here."
2. Jari sunoo että – istuu mukavasti tässä.
   "Jari says that **he** sits comfortably here."

- In (1), the null argument stays in SpecvP and is licensed as arb by T.
- In (2), it raises for "EPP" reasons (see Holmberg 2010).

The semantics of pro

- Barbosa adopts Elbourne's (2005) approach:

[[ONE]] = λx:x∈De.x∈De (trivially true of any individual in D, but we need to add "& human(x)")

- So it's really [$_{NP}$ x]
- And can be existentially closed → ∃x[P(x)]
- Type-shifted → ιx[P(x)]

(P the content of the predicate of which the DP is an argument)

Linking the semantics to the syntax

- T-binding gives existential closure (hence sensitivity to external argument)
- A further option is binding by GEN → the quasi-universal interpretation
- A final, crucial option for definite NS:

PERSx [P(x)] (where PERS is a cover term for 1,2,3 etc; the extent that PERS is definite, this has the effect of type-shifting, i.e. ιx[P(x)])

- This is where D[phi] binds [$_{NP}$ x] in consistent NSLs (and in all cases where D doesn't also incorporate into T and hence is realised as an overt pronoun).

Longobardi (2008): Denotation Hypothesis

- Individuals are denoted through the Person feature.
- If a language has no grammaticalized phi-features, it will have no head with the feature(s) Person in its syntactic representation of nominal arguments.

Typology

- **Strong person** languages: Italian, Spanish, Romanian, Greek, Bulgarian, Arabic ..
- **Weak person** languages: English, Norwegian, Icelandic, Welsh (?)
- **No-person** languages: East Asian

The DP-typology and null arguments

- strong person languages are consistent NSLs
- weak-person languages are partial or non-NSLs
- no-person languages are radical NSLs

Clear support for the relevance of D for NSL typology.

A hypothesis about the functional structure of DP

D[iPers, uNum, uN] .. Num[iNum, uN] .. n[uN] .. [NP x]

- here each head is a defective goal for the next one up so iterated incorporation gives D[iPers, iNum, iN] which (a) binds [NP x], and (b) can value clausal uPhi probes
- in fact D is a defective goal for T (and v) so, all else equal, will incorporate: this is what happens in consistent NSLs (T), with cliticisation to v (all the strong-person languages are consistent NSLs with object clitics)

Non-pronominal DP arguments in strong-person languages

- assume, standardly that these DPs have Case and probes don't → no incorporation as D is therefore not a defective goal, but Agree still holds
- defective goals are inherently active
- NB [$_{NP}$ x] would here be N(x), where N is the denotational content of the head noun and x its referential argument (Williams 1981); possibly the external argument of N in SpecnP

Weak-person languages

- [Person] is located lower in DP (cf. Hoehn on "unagreement systems"):

D[uPers, Case, uNum] .. Num[iNum] .. n[iPers]
[NP X]

- no DP-internal incorporation, just Agree
- arbitrary pronouns/partial NS: D not present on indefinites (or lacks non-Case features)

No-person languages

- The formal feature required to license [NP x] is absent (by hypothesis)
- but denotation still happens (not licensing [NP x] is a no-choice parameter – how?)

Parameter hierarchies

- If null subjects result from the interaction of phi-specifications of T and D with
- [NP x], the phi-features might form hierarchies.

- So: does T have phi-features? Y/N.
  Y: does T have Person features?
  Y: does T have Number features?
- And the same for D
- NB T could really be C in terms of Chomsky (2008)

The form of hierarchies

- Recall NO > ALL > SOME
- We expect, all other things being equal, an "is-there-phi?" option
- If there isn't one, why not?

No-choice parameters

- **Biberauer, Holmberg, Roberts & Sheehan (2010) and Biberauer, Roberts & Sheehan (2013)**: UG in fact makes available certain formal underspecified options which can only be set one way
- **no-choice parameters** which are always set a given way ***because of functional pressures***

Phi or no phi?

- An option
- But no system takes the "no" option since these features contribute to the reference of the whole DP
- Recall Longobardi's (2008:17):

Denotation Hypothesis:

Individuals are denoted through the Person feature.

But UG doesn't care

- So we can continue to treat DP-internal phi-features as optional at the UG level
- If they don't appear there, then nominals can't refer to individuals
- And so there isn't much to talk about …
- … and UG doesn't care about what we talk about
- BUT WE DO!

East Asian again

- If East Asian languages lack grammaticalised Person then:
- **Either** a Chierchia-style Mapping Parameter
- **Or** different features are grammaticalised in the D-system, e.g. classifiers?

  - **Conjecture:** in no-person languages, the exponence of the functional heads is ***richer*** than in weak/strong person languages as lexically contentful elements can occupy functional positions to semantic (but not formal, in the sense of feature-valuing/licensing) effect
  - These include classifiers, localisers (in the sense of Huang 1982) and, perhaps "Case particles" (see Biggs 2014 on Case in Mandarin)

- clearly more to say here.

"Rich agreement" and null subjects

canto	cantiamo
canti	cantate
canta	cantano

Etc.

Long-observed link to null subjects (see Jespersen 1924)

But very hard to pin down formally.

Morphological exponence of features

- We expect radical pro-drop languages to lack agreement marking, if they lack phi-features on probes
- ***But why are the phi-features (fairly) systematically realised in the other systems?***
- The inflections act as an acquisition trigger
- A Mohawk-like abstract system with Japanese morphology (allowed by UG) would be unlearnable.

An acquisition-based generalisation

- No expletive morphology
- Inflectional distinctions consistently encode formal features (there can be more distinctions than features, but morphology must encode something syntactically relevant)
- Hence Mohawk can't be Japanese
- Can Japanese be Mohawk? In principle yes (UG doesn't care), but in practice no, as Japanese is more accessible to acquirers (NO rather than ALL)

"Rich agreement"

- Is a learnability issue:
- If there's morphology, acquirers posits relevant features
- If there are no features, there's no morphology
- But if there's no morphology, we (and acquirers) don't know which features are present – other evidence (F2) or FE/IG (i.e. NO > ALL > SOME) are crucial

Conclusions

- All nominals contain [NP x] (Williams 1981)
- NSL typology depends on interaction of phi features of T and phi features of D
- Ways of licensing [NP x] independent of null subjects (arbs)
- The crucial phi-feature is Person (Longobardi 2008) for denotation and variation
- Hierarchy of options: NO person > STRONG person > WEAK person