Transitive Agreement?

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The picture of syntactic displacement in the MP goes as follows:

- A head α bearing an edge feature (ε) and a feature [φ] capable of undergoing agreement probes its c-command domain for a [φ]-bearing β (1a).
- On finding β, α agrees with it on [φ], activates its edge feature and raises β to its Spec (1b).
- The probe-goal relation respects Minimality; α cannot probe γ "past" an intervening β that is an actual/potential [φ]-bearer (1c):

(1) a.
$$[_{\alpha P} \quad \alpha \quad \dots \quad [\dots \beta \dots]]$$
 $[\epsilon, \varphi] \rightarrow \text{probes} \rightarrow [\varphi]$
b. $[_{\alpha P} \quad \beta \quad \alpha \quad \dots \quad [\dots \beta \dots]]$
c. $[_{\alpha P} \quad \alpha \quad \dots \quad [\dots \beta \dots [\dots \gamma \dots]]]$
 $[\varphi] \rightarrow \text{probes} \xrightarrow{X} [\varphi]$

(2) a.
$$[CP \ C \ ... \ [...\beta ... [...\gamma ...]]]$$
 $[Q] \rightarrow probes \rightarrow [Q] \xrightarrow{X} [Q]$
b. Who __ saw what?
c. *What did who see ?

"Superiority"

Although this picture neatly explains Superiority, it also raises questions for any displacement purporting to cross one phrase over another of the same type:

(3) a.
$$[\alpha_P \ \gamma \ \alpha \dots [\dots \beta \dots [\dots \gamma \dots]]$$

In this talk I:

- Review potential cases of the problematic type, both in the clause nucleus (vP/VP) and in the left periphery (CP).
- Explore a possibility for establishing agreement relations between α and β in (1c) that doesn't involve a direct probe-goal relation, viz., by transitivity via a moving head.
- Explore a potential consequence of this picture for the left periphery.

1.0 Non-Problem Cases: Passives & Raising

The situation in (1a-c) is sometimes put in terms of α finding the "closest" β . Crucially "closest" requires c-command between α - β and β - γ . This means standard analyses of passive and raising (where α = T) encounter no Minimality problems.

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In (4a,b) Mary (β) is not taken to c-command John (α), so Mary does not count as closer to T in the sense relevant for (1c).

2.0 Problem Cases: vP/VP

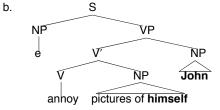
There are a wide variety of argument alternations/reorderings within vP/VP in which a lower y might be analyzed as crossing a commanding β enroute to a higher position.

2.1 Subject Raisings

2.1.1 Psych Vs

Belletti and Rizzi (1988) argue that subjects of certain psych verbs like (5a) raise across an underlying higher experiencer (5b).

(5) a. [Pictures of himself] annoy John.



2.1.2 "Instrumental Advancement"

- (6) a. John opened this door with this key.
 - b. This door opens with this key.
 - c. This key opens this door.

"Instr → 1"

- (7) a. [John's apartment walls] displayed/featured [pictures of himself].
 - b. Mary decorated/festooned [John's walls] [with pictures of himself].
 - c. [pictures of himself] decorated/festooned John's walls.
- (8) [pictures of **himself**] decorated/festooned **John**'s walls _____

2.1.3 Mandarin "Non-canonical Subjects"

Lin (2001), Barrie & Li (2012, 2014), Zhang (2005) and Li (2014) note pairs like (9-12), which occur in the absence of a canonical agent/experiencer subject.

(9) a. lücha he xiao bei THEME > INSTRUMENT green.tea drink small cup 'Green tea is drunk with small cups.'

b. xiao bei he lücha INSTRUMENT > THEME small cup drink green.tea
 'Use the small cup to drink the green tea.'

- (10) a. dongzuo pian kan da dianyingyuan; katong pian kan xiao dianyingyuan. action film watch big theater cartoon film watch small theater 'Action films are to watch in big theaters; cartoons are to watch in small theaters.'

 THEME > LOCATION
 - b. da dianyingyuan kan dongzuo pian; xiao dianyingyuan kan katong pian.
 big theater watch action film small theater watch cartoon film
 'Big theaters are for watching action films; small theaters are for watching cartoons'

 LOCATION > THEME

(11) a. lubiantan mai wanshang. LOCATION > TIME street.stall sell evening 'Sell at street stalls in evenings.'

b. wanshang mai lubiantan.
 evening sell street.stall
 'Sell at street stalls in evenings.'

(12) a. zhe-ba dao qie zaoshang. INSTRUMENT > TIME this-CL knife cut morning 'This knife is to cut with in the morning.'

b. zaoshang qie zhe-ba dao.
 morning cut this-cL knife
 'Cut with this knife in the morning.'

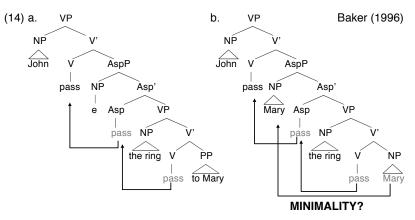
Li (2014) analyzes the situation as in (13). When AGENT/EXP (vP Spec) is projected, it raises to subj (13a); when AGENT/EXP is not projected, args with other roles (Spec of VP) raise, either in thematic order (13b) or in contra-thematic (13c) order:

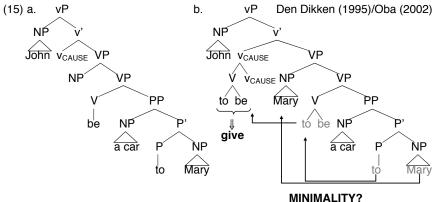
(13) a. [
$$\alpha$$
 [$_{VP}$ α v [$_{VP}$... V]]] vP Spec raises b. [β [$_{VP}$ β ... [$_{VP}$ γ ... V]]] VP Spec raises ("thematic order") c. [γ [$_{VP}$ β ... [$_{VP}$ γ ... V]]] VP Spec raises ("contra-thematic order")

(13c) clearly raises Minimality questions (cf 1c).

2.2 Object Raisings

2.2.1 DOCs





2.2.2 Applicatives

- (16) a. Fisi a-na-dul-a [chingwe] [PP ndi mpeni] hyena sp-pst-cut-asp rope with knife 'the hyena cut the rope with the knife'
 - b. Fisi a-na-dul-**ir**-a [mpeni] [chingwe] hyena sp-pst-cut-**app**-asp knife rope 'the hyena cut the rope with the knife'
- (17) a. Umwaana y-a-taa-ye [igitabo] [pp mu maazi] Kinyarwanda child sp-pst-throw-asp book in water 'The child threw the book into the water'

Chichewa

b. Umwaana y-a-taa-ye-mo [amaazi] [igitabo child sp-pst-throw-asp-app water book 'The child threw the book into the water'

(18) a. Umugore y-oohere-je [umubooyi] [PP kw'-iisoko] Kinyarwanda woman sp-send-asp cook to market 'The woman sent the cook to the market'
b. Umugore y-oohere-je-ho [-iisoko] [PP umubooyi] woman sp-send-asp-app market cook

(19) a. Umugabo a-ra-som-a [ibaruwa] [PP n' -iibyiishiimo] man sp-pres-read-asp letter with joy 'The man is reading a letter with joy'

'The woman sent the cook to the market'

- b. Umugabo a-ra-som-an-a [ibaruwa] [ibyiishiimo] Kinyarwanda man sp-pres-read-app-asp letter joy 'The man is reading a letter with joy'
- (20) Nsima iyi ndi-ku-dy-**er**-a njala *Chichewa* cornmeal this 1s-pres-eat-app-asp hunger 'I am eating this cornmeal from/out of/because of hunger'
- (22) $[_{VP} NP2 APP [_{VP} NP1 [_{V'} NP2]]]$ MINIMALITY?

2.2.3 Bantu Linkers (Baker and Collins 2007)

- (23) a. Mo-n-a-hir-ire [okugulu] k'- [omo-kihuna].

 AFF-1S-T-put-EXT leg.15 LK.15 LOC.18-hole.7
 I put the leg in the hole.
 - b. Mo-n-a-hir-ire [omo-kihuna] m'- [okugulu].

 AFF-1S-T-put-EXT LOC.18-hole.7 LK.18 leg.15
 I put the leg in the hole.

3.0 Problem Cases: CP

b. *Kakvo koj

- (25) Bulgarian Obeys Superiority
 - a. **Koj kakvo** kupuva? NOM > ACC who.Nom what.Acc bought 'Who bought what?'

kupuva?

ACC > NOM

- (26) Russian Seems to Disobey Superiority
 - a. i. Kto kogo videl?

 who.NOM who.ACC saw

 'Who saw who?'

 ii. Kogo kto videl?

 ACC > NOM

 h. i. Kto. Što. pospytoval Darii?
 - ii. Kogo kto videl?

 b. i. Kto čto posovetoval Darii?

 who.Nom what.ACC advised Daria.DAT

 'Who advised what to Daria?'

 ACC > NOM

 NOM > ACC

 Paria.DAT
 - ii. Čto kto posovetoval Darii? ACC > NOM

Scott (2012) observes:

- (27) Russian Obeys Superiority in Complement Clauses
 - a. i. Maria sprosila **kto kogo** videl? NOM > ACC
 Maria asked who.NOM who.ACC saw
 'Maria asked who saw who?'
 - ii. *Maria sprosila Kogo kto videl? ACC > NOM
 b. i. Maria sprosila kto čto posovetoval Darii? NOM > ACC
 Maria asked who.Nom what.ACC advised Daria.DAT
 'Who advised what to Daria?'
 - ii. *Maria sprosila **čto kto** posovetoval Darii? ACC > NOM
- (28) Russian Obeys Superiority When Wh- is Preceded by a Topic
 - a. i. Darii **kto čto** posovetoval? TOP > NOM > ACC Daria.DAT who.NOM what.ACC advised 'Who advised what to Daria?'
 - ii. *?Darii **čto kto** posovetoval? TOP > ACC > NOM

Her Proposal (in brief):

A. Russian obeys Superiority Fully wrt CP

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[CP WH [TP ... WH1 ... WH2 ... ]]]
[CP WH1 - WH2 WH [TP ... WH1 ... WH2 ... ]]]
*[CP WH2 - WH1 WH [TP ... WH1 ... WH2 ... ]]]
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B. In matrix clauses Russian has a higher projection (XP) that can host Topics and Wh-

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[xp Darii [cp WH1 - WH2 WH [Tp ... WH1 ... WH2 ... ]]]
[xp WH1 [cp WH1 - WH2 WH [Tp ... WH1 ... WH2 ... ]]]
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3) Apparent Superiority Violations arise by WH2 raising over WH1 to XP

But doesn't this movement violate Minimality/Superiority, even if wh-movement didn't?

4.0 My Kingdom for a Feature!

Responses to Minimality problems typically appeal to "feature juggling".

Assume 1: Minimality only involves actual feature bearers, not potential ones.

Assume 2: α and γ bear a feature $[\phi]$ that β does not bear in the derivation.

Then the probe from α can "look past" β to γ .

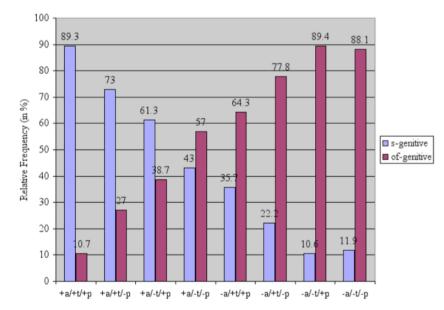
$$\begin{bmatrix} \alpha & \alpha & \dots & [\dots \beta \dots [\dots \gamma \dots]] \end{bmatrix}$$
$$[\phi] \rightarrow \text{probes} \xrightarrow{} [\phi]$$

This proposal requires us to find a single feature (ϕ) shared by α/γ but not β that can be assigned responsibility for raising.

Example: (Scott 2012)

Problem (vP/VP): With the subject raising cases, it is very unclear what feature might be shared by T and the lower NP but not the intermediate NP.

Problem (vP/VP): With the object raising cases, extensive research by Bresnan et al demonstrates that a **cluster of features** determine speaker choice between PPDs and DOCs. Parallel results by Rosenbach (2002,2003) demonstrating choice between pre-/post-nominal genitive in English is closely predicted by **three features**: [±animacy], [±topicality], and [±prototypicality of poss relation].



This means there is no <u>single</u> feature resident on the lower NP and higher app to which responsibility for movement could be assigned.

Problem (CP): Does it make sense to call a Wh-operator a "topic"? Topics are old info. *Wh*- request new info. Bare *wh*'s are not D-linked. It seems likely that Superiority violating vs. preserving matrix structures will involve a <u>set</u> of features on a *wh*-determining speaker choice.

5.0 Agreement by Probe-Goal vs. Agreement by Transitivity

The prerequisite for movement is an agreement relation between α and ν across β .

(29)
$$[_{\alpha P} \quad \alpha \quad \dots \quad [\quad \dots \beta \dots [\quad \dots \gamma \dots]]]$$

$$[\varphi] \rightarrow \rightarrow \text{ agreement } \rightarrow \rightarrow [\varphi]$$

But probe-goal cannot establish that relation in the case of (29) (Minimality). Is there an alternative?

Suppose:

- γ agrees with a local head H on [Φ],
- H raises to the vicinity of α and agrees with it on $[\Phi]$

Then α and γ will agree on $[\phi]$ despite no probe-goal relation holding between them (30a). If α carries an edge feature, γ can raise without violating Minimality (30b).

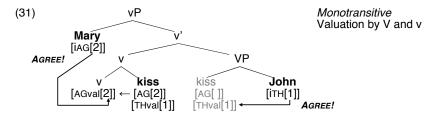
(30) a.
$$[_{\alpha P} \quad \alpha \ldots \mathbf{H} \quad [\ldots \beta \ldots [\quad \mathbf{H} \ldots \gamma \ldots]]]]$$
 $[\phi] \leftrightarrow [\phi]$ $[\phi] \leftrightarrow [\phi]$ b. $[_{\alpha P} \quad \mathbf{\gamma} \quad \alpha \ldots \mathbf{H} \quad [\ldots \beta \ldots [\quad \mathbf{H} \ldots \gamma \ldots]]]]$

Agreement by transitivity can therefore evade Minimality in (29) if we have a head H of the required sort and features of the right kind.

6.0 vP/VP Cases Revisited

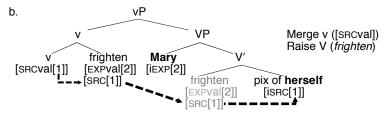
Features (Pesetsky & Torrgeo 2007):

- Three flavors iF, Fval, F
- Undergo agreement, denoted by shared index (F[1]...Fval[1])
- Every well-formed "chain feature" must have an interpretable instance and a valued instance (iF[1]...Fval[1], iF[1]...Fval[1], etc).
- Only unvalued features probe for agreement

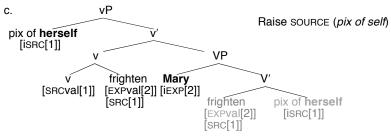


6.1 Subject Raisings

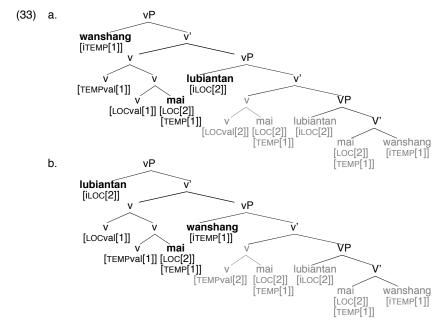
Psych Vs of the relevant sort involve SOURCE and EXPERIENCER arguments.



Little v agrees with SOURCE by transitivity, "underneath" Mary.

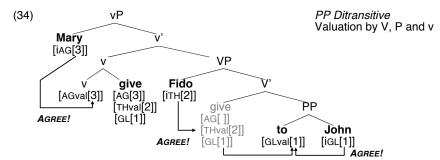


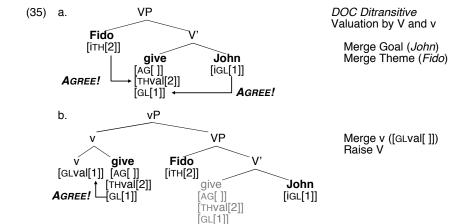
SOURCE subsequently raises to subject position. This account can be extended to instrumental alternations and to Mandarin non-canonical subject alternations.

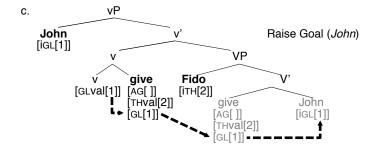


6.1 Object Raisings

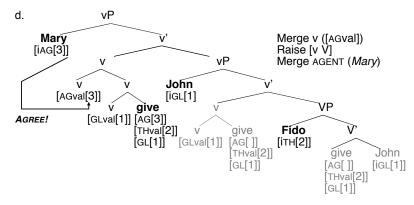
Dative Vs involve AGENT, THEME and GOAL arguments.







Little v agrees with GOAL John by transitivity, "underneath" Fido.



This account can be extended to all applicative alternations.

7.0 CP Cases Revisited

To extend these proposals to the CP cases, we need an analysis like (36a), with heads α/A that share features with wh's in parallel to v/VP and their args, and with this relationship creating transitive agreement and raising (36b).

(36) a.
$$[_{\alpha P} \quad \alpha \quad \dots \quad A \quad [\quad \dots \quad wh1 \quad \dots \quad [\quad A \quad \dots \quad wh2 \quad \dots]]]$$

$$[\varphi] \leftrightarrow [\varphi] \qquad \qquad [\varphi] \leftrightarrow [\varphi]$$
b. $[_{\alpha P} \quad wh2 \quad \alpha \quad \dots \quad A \quad [\quad \dots \quad wh1 \quad \dots \quad [\quad A \quad \dots \quad wh2 \quad \dots]]]$

This is not the usual picture.

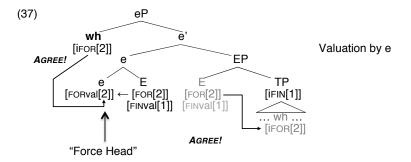
The left periphery is widely analyzed via a cartographic projection hierarchy:

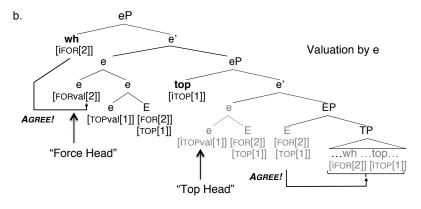
No single head (comparable to v/V) that coordinates elements of this domain, and no joint system of features that are shared.

Therefore, assume:

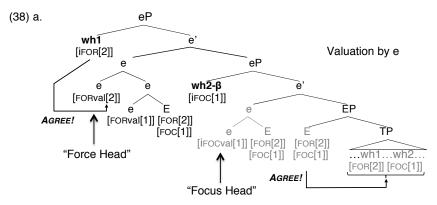
- a single head e/E (Banfield 1973) bearing features drawn from the set {[FOR], [TOP1], [FOC], [TOP2], [FIN]} (in essence, "theta-features for E")
- a feature hierarchy [FOR] > [TOP1] > [FOC] > [TOP2] > [FIN]

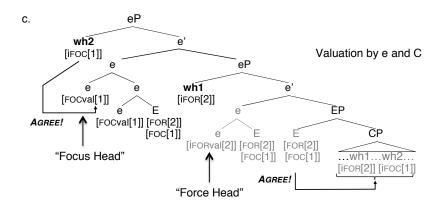
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How do we do multiple wh-movement? In this account it seems we must assume separate features are responsible:





This picture requires the two wh-s to bear independent features wrt e/E, parallel to the Mandarin non-canonical subject cases. This may simply be incorrect.

SUMMARY

- Minimality makes trouble for movement analyses in which one phrase would need to cross over another of the same type
- Problems arise is the vP/VP domain with argument inversions.
- Problems arise is the CP domain with wh- inversions (Russian).
- A potential solution lies in recognizing an alternative to direct probe-goal in establishing agreement relations: transitive agreement vis a raising head
- Application of this idea to the vP/VP domain looks possible/plausible.
- Application of this idea to the CP domain requires a radical revision of current cartographic ideas: elimination of projection hierarchies in terms of a set of features organized by a single head (e/E)
- Accommodating multiple wh- requires us to see the wh's as not having the same role after all. Not clear this is plausible/desirable/tenable, etc.

Thanks (especially to participants in my Fall 2015 seminar)!