

AGREE, the Agreement Hierarchy and late adjunction

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- Certain elements in some (but not all) languages are allowed to vary between controlling morphologically based agreement and semantically based agreement.

Morphological vs Semantic agreement

Morphologically based agreement = agreement that tracks the morphological shape of the controller.

Semantically based agreement = agreement that tracks the semantic interpretation of the controller.

- Usually these line up, but we can notice mismatches between morphology and semantics.

(1) The committee **is/are** making the decision now.

Semantic Agreement

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- Semantic Agreement is shown in Smith (2015) to have a

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3/4 Agreement Patterns

- With so-called 'hybrid' controllers, when there are two targets of agreement, we expect 4 configurations.

(2)

Target 1	Target 2	Result
<i>uF</i>	<i>uF</i>	Matching morphological agreement
<i>iF</i>	<i>iF</i>	Matching semantic agreement
<i>uF</i>	<i>iF</i>	Morphological – semantic mismatch
<i>iF</i>	<i>uF</i>	Semantic – morphological mismatch

- In many cases, however we see that only 3 patterns are found.

British English

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- (3)
- a. The government **has** offered **itself** up for criticism (with this policy).
 - b. The government **have** offered **themselves** up for criticism.
 - c. The government **has** offered [?]**themselves** for criticism.
 - d. *The government **have** offered **itself** up for criticism.

Russian (Corbett, 1983)

- (4) a. **Novyj** vrač **skazal**.
new.MASC doctor said.MASC
'The new doctor said.'
- b. **Novaja** vrač **skazala**.
new.FEM doctor said.FEM
'The new doctor said.'
- c. **Novyj** vrač **skazala**.
new.MASC doctor said.FEM
'The new doctor said.'
- d. * **Novaja** vrač **skazal**.
new.FEM doctor said.MASC
'The new doctor said.'

Hebrew (Landau, to appear)

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- (5) a. ha-be'al-im ha-kodm-im maxru et
the-owner-PL the-previous-PL sold.3.PL ACC
ha-makom lifney šana
the-place before year
'The previous owners sold the place a year ago.'
- b. ha-be'al-im ha-kodem maxar et
the-owner-PL the-previous.SG sold.3.SG ACC
ha-makom lifney šana
the-place before year
'The previous owner sold the place a year ago.'

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- (6) a. ? ha-be'al-im ha-kodm-im maxar et
 the-owner-PL the-previous-PL sold.3.SG ACC
 ha-makom lifney šana
 the-place before year
 'The previous owner sold the place a year ago.'
- b. *ha-be'al-im ha-kodem maxru et
 the-owner-PL the-previous.SG sold.3.PL ACC
 ha-makom lifney šana
 the-place before year
 INTENDED: 'The previous owner(s) sold the place
 a year ago.'

- What is striking about these cases is that they are what one would predict if the Agreement Hierarchy controlled mismatches.

(7) attributive – predicate – personal pronoun
 ←-- morphological semantic --→

	Attributive	Predicate	Pronoun	
Russian	Red	Blue	White	Grammatical
Hebrew				
BrE	White	Red	Blue	
Russian	Blue	Red	White	Ungrammatical
Hebrew				
BrE	White	Blue	Red	

Mismatches and the Agreement Hierarchy

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- The Agreement Hierarchy is stated over a corpus level.
- To see it apparently at work at a sentential level is surprising.
- We can say that it is a (rather clucky) sentential level constraint:

3/4 Implicational Rule

When a controller controls agreement on two targets, the value assigned to the two targets can mismatch only if among the targets, the target which is to the right on the agreement hierarchy agrees with the iF of the controller and the target to the left on the hierarchy targets the uF value.

Mismatches without the Agreement Hierarchy

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- Such a rule, aside from being relatively un insightful offers no explanation as to what would happen if the two targets come from the same spot on the hierarchy.
- Such mismatches do exist, and again we find 3/4 patterns instead of 4/4 or 2/4.

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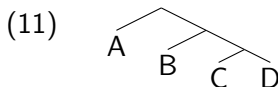
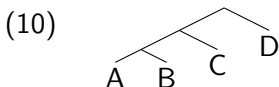
- (8) a. ? ha-be'alim **ha-prat**iy-im **ha-ax**aron šel ha-tmuna
the-owner the-private-PL the-last.SG of the-painting
haya ha-psixo'analitika'i Jacques Lacan
was.3SG the-psychoanalyst Jacques Lacan
'The last private owner of the painting was the
psychoanalyst Jacques Lacan.'
- b. *ha-be'alim **ha-prati** **ha-axron-im** šel ha-tmuna
the-owner the-private.SG the-last-PL of the-painting
haya/ hayu ha-psixo'analitika'i Jacques Lacan.
was.3.SG/ was.PL the-psychoanalyst Jacques Lacan
INTENDED: 'The last private owner of the painting was
the psychoanalyst Jacques Lacan.'

Chichewa (Corbett, 1991)

- (9) a. ngwazi **y-athu y-oyamba**
hero 9-our 9-first
'Our first hero.'
- b. ngwazi **w-athu w-oyamba**
hero 1-our 1-first
'Our first hero.'
- c. ngwazi **y-athu w-oyamba**
hero 9-our 1-first
'Our first hero.'
- d. *ngwazi **w-athu y-oyamba**
hero 1-our 9-first
INTENDED: 'Our first hero.'

Hebrew versus Chichewa

- The DP-internal word order of Hebrew and Chichewa is different.
- Hebrew left to right order represents low to high structure (Sichel, 2002).
- Chichewa left to right order represents high to low structure (Carstens, 1991, 1993).



- This means that in the case of mismatches, the *higher* modifier in Hebrew shows semantic agreement, but the *lower* modifier in Chichewa shows semantic agreement.

Hebrew and Chichewa

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- These two patterns from Hebrew and Chichewa are not readily amenable to Agreement Hierarchy.
- Thus, they seem to show something deeper at play than a sentential level AH constraint.

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- Elements to the right on the AH restrict elements on the left.
- If the righter element shows semantic agreement, then either semantic or morphological agreement is possible to lefter elements. BUT.
- If the righter element shows morphological agreement, then only morphological agreement is possible.

Towards an explanation: Schema

- We can capture the British English 3/4 pattern in the following schema.

- (12) a. The order of agreements is: anaphor \prec verb, where \prec implies precedence
- b. If agreement targets both *i*Fs and *u*Fs on a controller, the *i*F must be agreed with first.

- This is very abstractly the approach offered in Smith (2013).
- But, the (finer points of the) approach offered there does not generalize to Russian or Hebrew.

Towards an explanation: Schema

- Again, looking somewhat abstractly, we can derive all patterns of the hierarchy if we add in adjectives.

- (13) a. The order of agreements is: anaphor \prec verb \prec adjective, where \prec implies precedence
- b. If agreement targets both *i*Fs and *u*Fs on a controller, the *i*F must be agreed with first.

- These assumptions put together allow agreement to switch between semantic and morphological agreement, in such a way that rightward elements on the hierarchy will show semantic agreement.

Why anaphor \prec verb \prec adjective?

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- The trick to all this is to make the ordering of agreement fall out from more general properties, rather than simply encode it as grammatical knowledge.

- I propose here that the reason why anaphors apparently restrict verbal agreement is because they merge into the structure before verbs.
- Anaphors are canonically objects, and will merge within the VP.
- The agreement features on the verb only merge in T.
- If AGREE happens at the first derivational step that target and controller are in the structure, then we can understand why anaphors precede verbs.

Modeling AGREE

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- Following Benmamoun et al. (2009); Arregi & Nevins (2012); Bhatt & Walkow (2013); Marušič et al. (2015), I propose that AGREE is split into two steps.

AGREE

Agreement by Probe Γ with Goal γ proceeds in two steps:

- AGREE-LINK: a probe has unvalued ϕ -features that triggers AGREE with goal (possibly more than one). The result is a link between probe and goal.
- AGREE-COPY: the values of the ϕ -features of goal are copied onto probe linked to it by AGREE-LINK.
 - if AGREE-COPY happens at transfer, this requires that goal c-command the probe.

Further Assumptions

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- In order for semantic agreement to be possible, *i*Fs on a target must be *active* for agreement.
- If an *i*F is active, it cannot be ignored for agreement.
- *i*Fs can be optionally deactivated through AGREE-LINK.
- They must enter the derivation as active (i.e. they cannot be activated).
- A mismatch between targets occurs when the controller enters the derivation with an active *i*F, which gets deactivated through AGREE-LINK with the first target, crucially before the second target undergoes AGREE.

Deriving British English

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- (14) a. The government is stabbing each other in the back.
b. *The government are stabbing itself in the back.

- Since anaphors are in the structure with the controller at a derivational point before T is, then agreement can shift from *iF* on anaphors to *uF* on verbs.
- With the *iF* active, AGREE-LINK links the anaphor to the *iF* on the CNP.
- If the *iF* is deactivated, then the verb will have to show agreement with the *uF*.

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- The same logic will capture the same facts from Russian and Hebrew.
- Though the question arises why (attributive) adjectives should merge into the structure after verbs.
- We can explain it if adjuncts obligatorily undergo late adjunction into the structure (Stepanov, 2001).
- Since T is not an adjunct, and attributive adjectives are, then verbal agreement will precede adjectival agreement.
- Thus, we can see a shift from semantic verbal agreement to morphological adjectival agreement, but not vice versa.

Russian: Derivation

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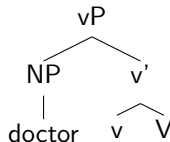
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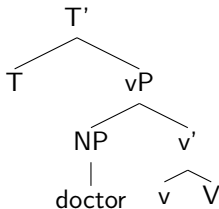
(15) *Merge of v with V*



(16) *Merge of $vrač$ into
Spec, vP*



(17) *Merge of T*



Russian: Derivation

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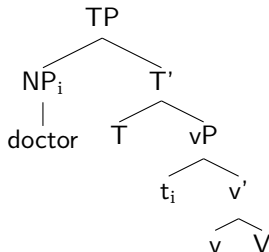
AH based

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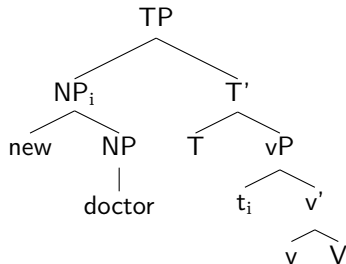
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(18) *Remerge of vrač
into Spec,TP*



(19) *Late merger of
adjunct*



Multiple Attributives

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- This talk has offered an analysis of apparent sentence-internal Agreement Hierarchy effects.
- The 3/4 patterns summarised are derived through considerations of timing of agreement and merge.
- In terms of merge: anaphor \prec verb \prec adjective.

Conclusions

- Non-Agreement Hierarchy 3/4 patterns can be captured by assuming a parametric difference between languages in terms of adjunction.

(20) In case of adjunction, adjoin to the {highest/lowest} segment of the adjunction site.

- Setting the parameter to HIGHEST results in lower adjuncts showing semantic agreement in case of mismatches.
- Setting the parameter to LOWEST results in higher adjuncts showing semantic agreement in case of mismatches.

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