Transfer Remnants and "Total" Transfer

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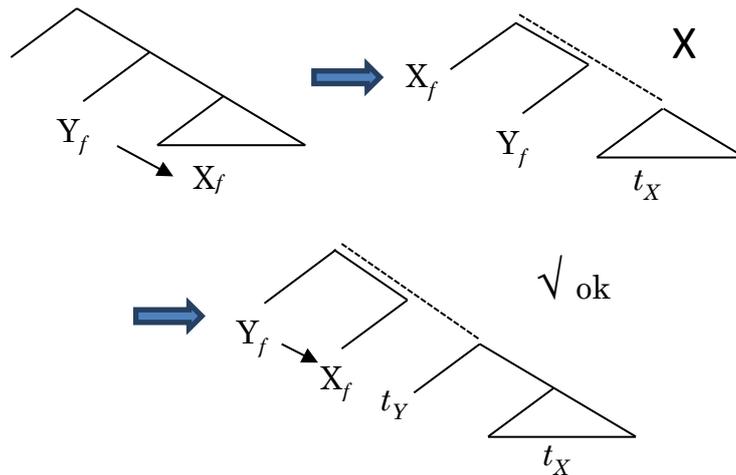Goethe Universität, Frankfurt am Main[1]

Leipzig, 24▪V▪13

Abstract: In this talk I attempt to show that a theory of movement that does not involve intermediate, successive-cyclic movement to phase-edges (Indirect Feature-driven Movement, or IFM) has certain theoretical and empirical advantages. In this phase-based approach, transferred material remains *in situ,* while still active syntactic objects are left unlinearized (*Total Transfer*). Material leftover after Transfer thus preserves its original hierarchical structure. In cases of multiple movement, multiple objects leftover after Transfer form a *Transfer Remnant*, a bundle of similar elements that may serve as a "Big Goal" for movement, again always retaining the original hierarchical relations between moving elements.

I   Some observations

There exists a tendency in natural language for basic hierarchical relations between syntactic objects with some *similar* property (aka *feature*) to be maintained when movement related to the shared property applies:

1)

1.1 Locality: Relativized Minimality (Rizzi 1990, Ferguson & Groat 1994), Superiority ("Closest Attract"; cf. Chomsky 2000 et seq)

Hierarchical relations between syntactic objects in identical types of positions (A, A´, X°) or bearing certain features (Case, wh, φ, etc.) tend not to be disturbed. Core examples (base positions underlined):

1.1.1 A-movement

2) a. [CP **It** seems [CP that [iP **John** was _t John_ having a good time]]].
    b. *[CP **John** seems [CP that [IP **it** was _t John_ having a good time]]].

1.1.2 A´-movement

3) a. [CP **Who** _t who_ wonders [CP **where** Joe went _t where_]]?
    b. *[CP **Where** does Joe wonder [CP **who** _t who_ went _t where_]]?

1.1.3 X°-movement

4) a. [TP They **could** [AspP **have** left]].
    b. *[TP They **had** [can [AspP _t have_ left]]]?

1.1.4 Superiority

5) a. [CP **Who** do you think [CP _t´´who_ [TP _t´who_ [vP _t who_ left **when**]]]]?
    b. *[CP **When** do you think [CP _t´when_ [TP **who** [vP _t who_ left _t when_]]]]?

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1.2 Clusters

Multiple movement of similar types of objects also retains base order, suggesting underlying hierarchy is maintained (see Pesetsky & Fox 2001 for a different approach). Core examples:

1.2.1 Multiple Wh-movement

6) a. [CP **Koj kogo** [TP t_{koj} viźda t_{kogo}]]?   (Bulgarian)
        Who whom   sees
       'Who saw whom?

   b. *__Kogo koj__ viźda?

1.2.2 Multiple Object Shift

Verb raising out of vP feeds object shift. From Rackowski & Richards 2005:

7) a. Ég skilaði **bókasafninu bókini**   ekki [vP tV $t_{bókasafninu}$ $t_{bókini}$].
        I   returned library-the.DAT   books-the.ACC not
       'I didn't return the books to the library."   (Icelandic)

   b. *Ég skilaði **bókini bókasafninu** ekki [vP tV $t_{bókasafninu}$ $t_{bókini}$].

1.2.3 Clitic clusters

Though much variation is found in base orders (PCC effects also interfere), base position hierarchy tends to be maintained where possible:

8) a. Marie **lui   en**   parle [VP tV t_{lui} t_{en}].
        Mary him.DAT about-it speaks
       'Mary speaks to him about it.'

   b. *Marie **en lui** parle.

1.2.4 Indefinite wh-clusters

Again, there are many other factors involved, but the base pattern preserves order (Struckmeyer 2011, Lechner 1998):

9) a. … daß **wer   was**   nicht [t_{wer} t_{was} gekauft hat]
        that somebody something not   bought has
       '… that somebody didn't buy something.'

   b. *… daß **was wer** nicht gekauft hat.

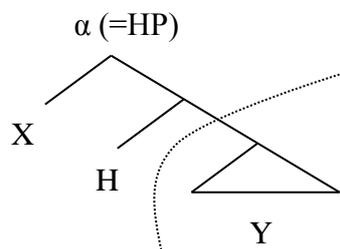(Note that scrambling is allowed only with multiple indefinite wh-words.)

2   Phase Theory

2.1   The Phase Impenetrability Condition (PIC)

We'll stick to PIC_1 (cf. Richards 2011).

10) PHASE IMPENETRABILITY CONDITION (Chomsky 2000)

In phase α with head H, the domain of H is not accessible to operations outside α; only H and its edge are accessible to such operations.


2.2   Unvalued features, Phase Edges, and the IFM

Unvalued features cause a crash at the interfaces, thus if phase-head H does not value a feature uF on Y in its complement, Transfer must move Y to the phase-edge…

a. so that uF remains accessible to further computation (and can get valued);
b. so that the interfaces "know" uF should not be interpreted (cf. feature-inheritance at Transfer to let interfaces "know" a valued feature should be ignored; see Richards 2011, 2012).

This is called *Indirectly Feature-driven Movement* (IFM). Example: a passive vP, with defective v unable to value Case.
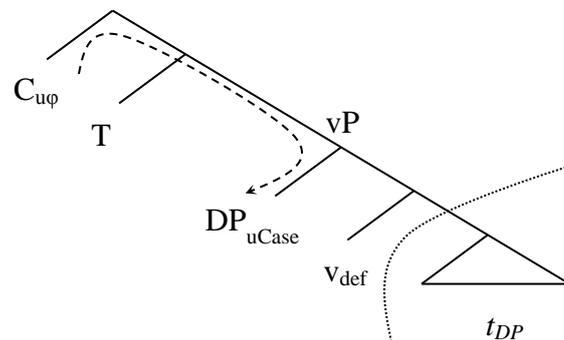
11)
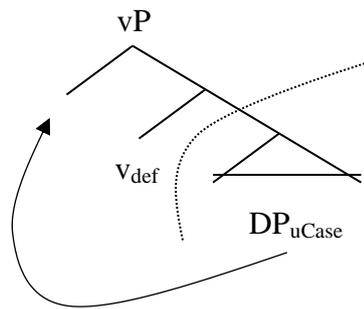
3 Problems with phase-theoretic approach

3.1 A redundancy: Activity vs. PIC

Consider the continued derivation of (10), with unvalued φ-features of C probing for something "active" bearing φ-features (cf. Activity Condition of Chomsky 2000, 2001):

12)

Why is DP visible to the probe C?

    a. It is on the phase edge (PIC);
    b. It bears an unvalued feature, uCase.

Redundancy!

3.2 Other odd things about IFM:

3.2.1 *Movement to the edge does not "remove" uF from the lower occurrence*

Lower and higher occurrences are the same element. The interfaces still need explicit instruction to "avoid" uF.

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3.2.2 Only PF is affected

The DP in (10, 11) still gets its object theta-role upon Transfer; the lower occurrence is necessarily visible. Thus deletion of the lower copy might be a solution to get rid of uF for PF, but not for LF.

3.2.3 What licenses "extra" movement when a feature is valued?

Feature-valuation is often accompanied by movement to the Edge of the phase doing the valuation (hence Spec-Head relations). But Agree does not require this configuration. Why is there overt movement that *looks like* IFM, but involves a valued feature?

3.2.4 A Problem for wh-movement/superraising

Why doesn't IFM interfere with command relations for, e.g., Superiority?

13)   *When do you think who left?
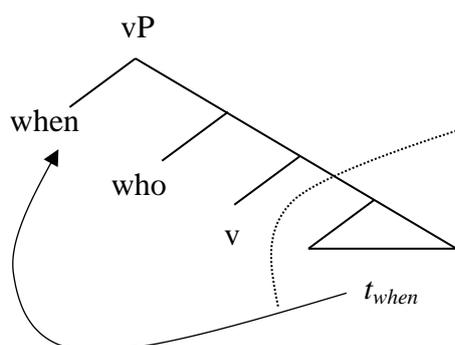
If *when* bears an unvalued operator feature that drives movement, IFM makes it structurally higher than *who,* thus closer to a wh-probe. (Case movement of *who* to Spec TP doesn't help; *when* will move again to Spec CP, and remain higher.)

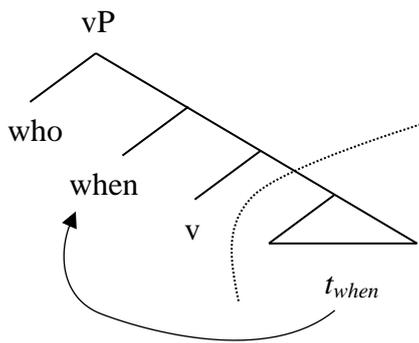Similar problems emerge for A-movement/Superraising and wh-Islands.

4   Countercyclic operations

Perhaps relative hierarchy is preserved through interlocking movements. . .
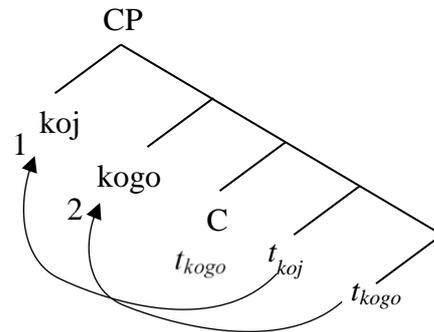
4.1   Tucking-in operations (Richards 1997, Preminger 2007)

Force the moving element to move low:

14)   a.   b.

A *countercyclic* operation; cf. also formation of Wh-clusters (Grewendorf 2001), clitic clusters (Cardinaletti 2006, Roberts 2010 etc.).

4.2 Merge does not yield "tucking in"

Merge (a,b) → {a, b}. That's all we get. "Tucking in" in (13) it would require destroying old structure and building a new structure.

Allowing such operations entails that Syntax can arbitrarily remerge structures in order to rearrange terms and define new ones any way we see fit: a highly non-restrictive kind of structure-building (see Groat in progress, Bobaljik 1995).

PROPOSAL
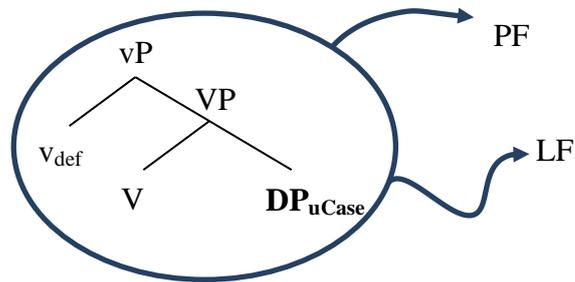
5 Total Transfer

Eliminate IFM. Then hierarchical relations remain unaltered.

5.1 Getting rid of IFM

15) TOTAL TRANSFER

   a. After feature-valuation, *all* material in a phase α with head H is transferred directly to the interfaces.
   b. uF on X is interpreted at the interfaces as an *instruction*. At PF: not to linearize X in α.

16) Example:

(Assuming here no further uFs on V/v_{def}). Now v_{def} can be linearized with respect to VP; VP in turn can linearize its parts: but DP_{uCase} will not be linearized. PF has interpretations for two objects, but they are not linearized w.r.t each other:
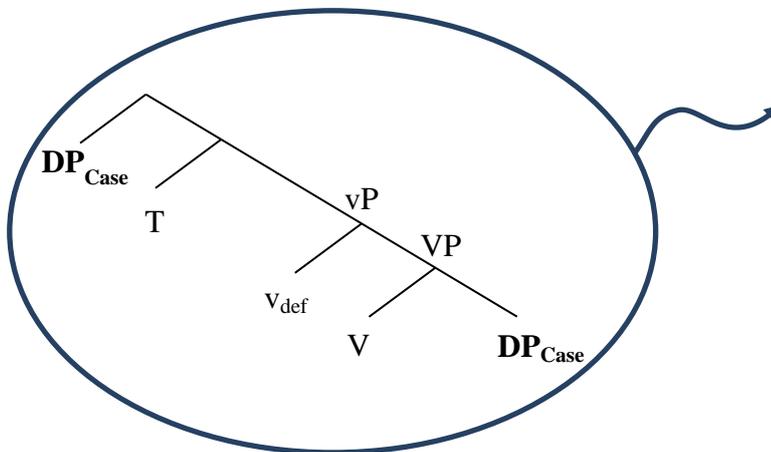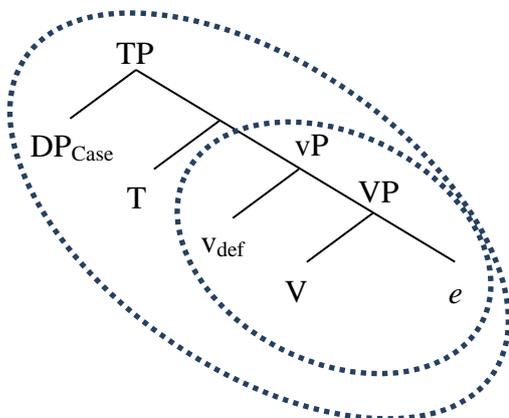
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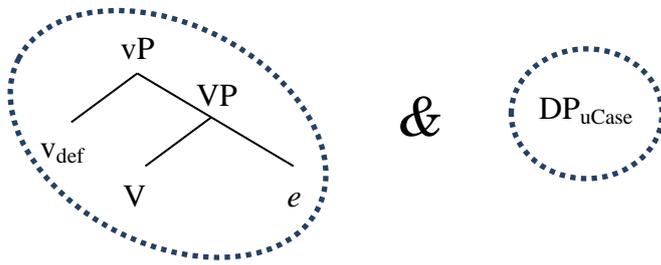
Linearization:

v>V,

DP

The DP can be linearized by merging once its Case feature is valued:

18)

PF now linearizes DP, since it has no uF:

19)

Linearization:

DP>T>vP

v>V

(complete)

9

Two problems:

a. Doesn't Transfer *get rid of* the structure (see Narita 2011, 2012), making vP disappear too?
b. Won't the derivation crash if LF/PF are sent unvalued uF?

Two Solutions:

5.2 Weak Transfer (cf. Chomsky, in press)

Chomsky (2013): Transfer need not involve "loss" of syntactic structure. Structure remains present, can be probed into, merged, etc. The structure is not "gotten rid of;" it just becomes largely inert.

5.3 uFs are interpretable: "Do not linearize"

On the LF side, uF can generally be ignored, though uF may be involved in theta-assignment (via uCase), and with variable interpretation (via uOp features). On the PF side, uF simply means "I am a trace."

5.4 Lexical Case: evidence for early PF interpretation of non-linearized elements

Lexical properties of V can require specific morphological Case on argument DP, without structurally licensing DP:

20) a. … dass er mir$_{DAT}$ geholfen hat.
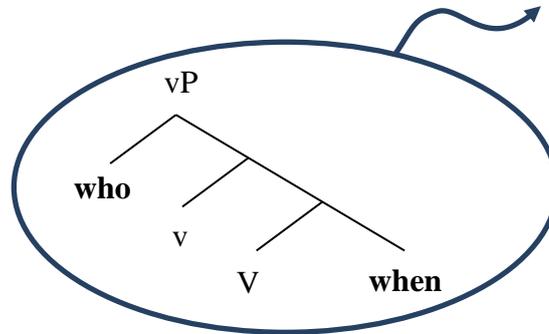   b. … dass mir$_{DAT}$ geholfen wurde.
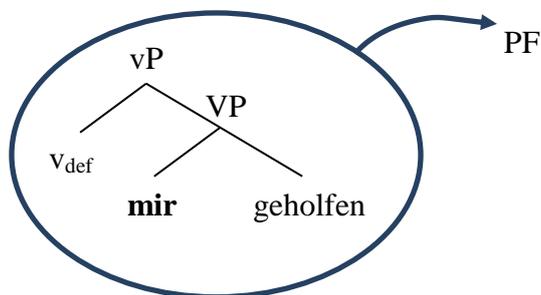
Licensing of DAT must apply here, yet linearization has not yet taken place.

5.5 Retaining hierarchical relations

Another example: Superiority

21)

No linearization yet for *when,* due to its unvalued Operator feature. (None yet for *who* either, due to Case; that comes later.) Therefore, *who* will forevermore count as a closer target for a wh-probe.

5.6 Further conceptual/empirical advantages

a. **Eliminates Redundancy:** The redundancy noted in 3.1 is overcome. What is accessible to syntactic computation is whatever has "visible" features; unvalued features are *necessarily* visible.

b. **Sheds light on the the Spec-Head relation:** Since only SOs bearing unvalued features remain unlinearized, we can now motivate movement/remerge upon feature-valuation: the SO is now phonologically interpretable, but where should it go? The phase it was first-merged in has already undergone Transfer, and is thus linearized: further work in it would be countercyclic. No space left there. So the SO must remerge outside that phase: to wit, to the Spec of the valuing head.

c. **Allows limited long-distance Agree** (cf. Bošković 2007, Polinsky & Potsdam 2001): a feature F on XP may be visible to a probe, even though F is valued. But XP cannot move: it has already been linearized in its Phase.

d. **Explains PIC:** No operation can alter interpretation (PF, LF) of a transferred phase, though the elements of the transferred phase are still visible, and new relations based on them can be formed.

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6   Transfer Remnants

Key insight of Relativized Minimality: **orthogonality**

- of positions (A, A′, X°) (Rizzi 1990)
- of features (Case, φ, wh/Op, focus, etc.) (Ferguson & Groat 1994, Ferguson 1997)

In terms of Probe-Goal: a probe only "sees" features of a similar kind. Wh/focus does not intervene for a phi probe, and vice versa. Superiority example again, having reached a C phase with an active wh-probe on C:

22)   a. The Structure:
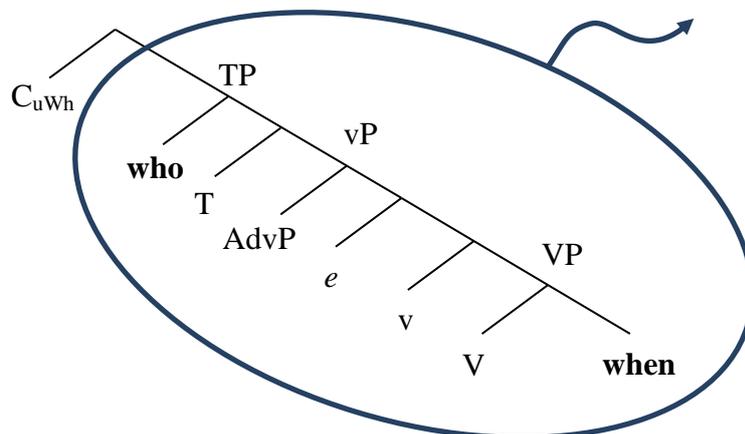
b. What C "sees":
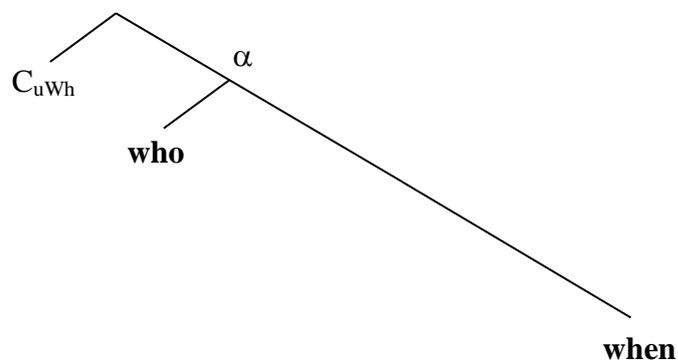
→ What "is" α?

6.1 Multiple whP-movement: "Big Goals"

Informal Proposal: two possible notions of closeness to probe P_F.

23) BIG GOAL PARAMETER *(def.)*

In [P_F ... [$_\alpha$ X_F [Y_F [Z_F]]]], the closest Goal for P_F is

    I. X_F ([–BIG]), or
    II. α ([+BIG]).

The notion of a "Big Goal" can be seen as dynamic labeling of consituents: cf. Chomsky, in press; Blümel 2012, Rizzi 2012: shared prominent features relabel a constituent.

A language like English with single wh-movement has the parameter setting [–BIG]. Thus in (20b) above, *who* is attracted by a higher probe.
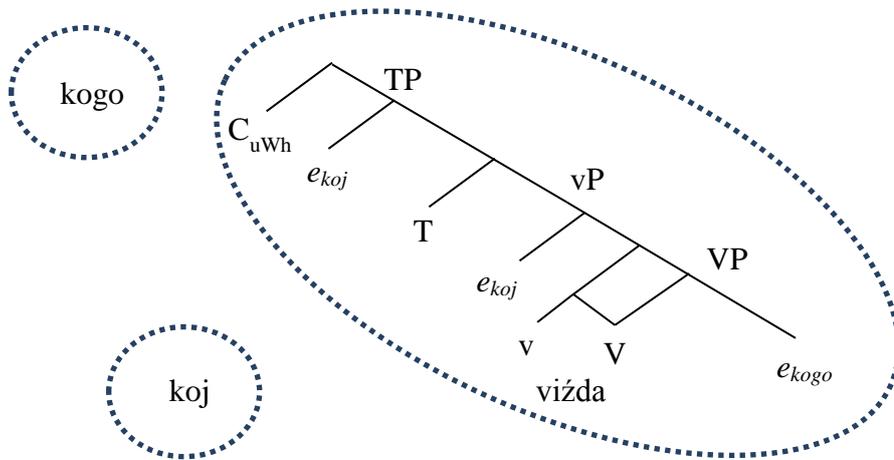
A language like Bulgarian with multiple wh-Movement has the parameter setting [+BIG] for F=[wh] (or possibly F=[FOCUS]; cf. Bošković 1997,Cheng 1997)

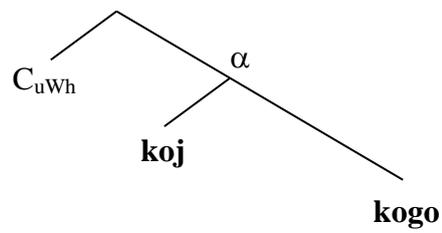Bulgarian example (put aside movement of verb for now):

24) a. **Koj kogo** viźda? 'Who saw whom?'
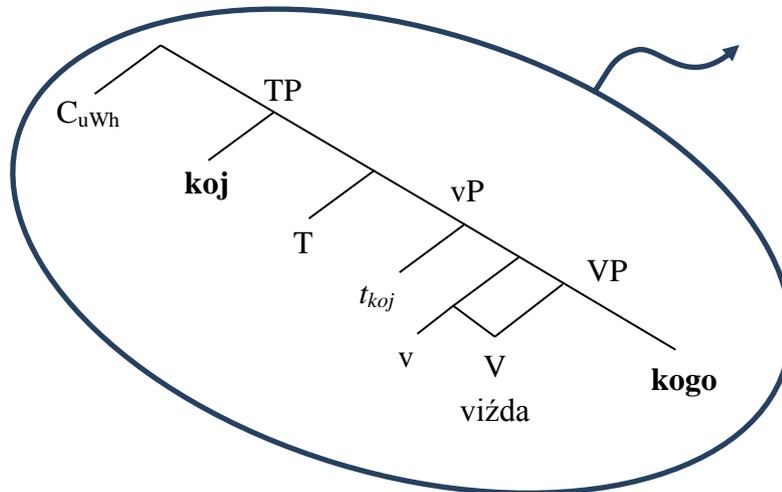
b. What PF has (to wit: *viźda, koj,* and *kogo,* unordered):

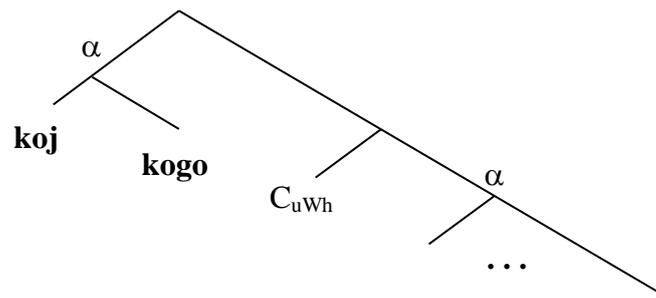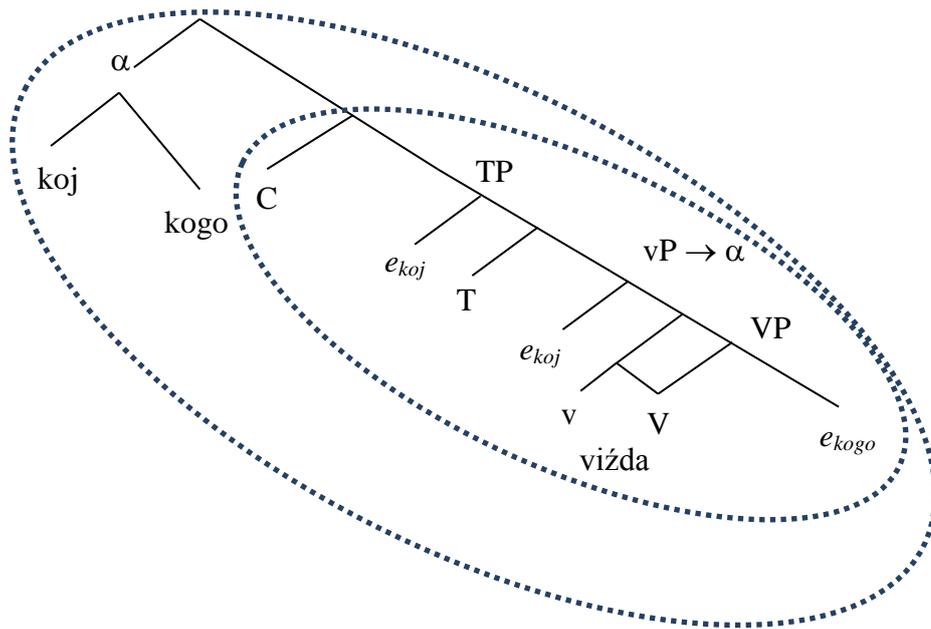

c. What C sees (a Big Goal):

C can now value the uOp features on *koj* and *kogo,* which must linearize: this is done by merger of α:

d. Movement of α:

e. What PF now has:

Notice that brackets effectively disappear: though in one sense the entire syntactic structure of α is remerged, in another sense, since everything in it has been transferred except the uninterpreted whPs, only those whPs are now transferred: as if nothing else where there.

- Call this derivationally "slippery" constituent a *Transfer Remnant.*

6.2 Generalizing Big Goals: Multiple Object Shift

25) Ég skilaði **bókasafninu bókini** ekki. 'I returned the books to the library.'
(Icelandic)
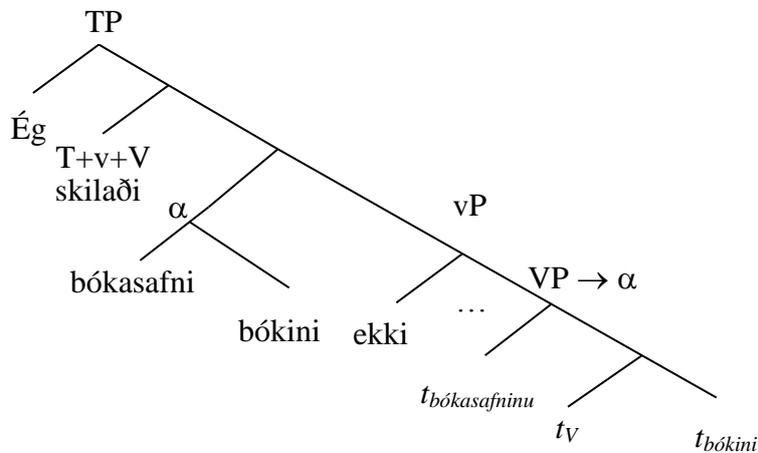
Assumption: some feature of the DPs related to specificity, possibly [+PERSON], is valued outside vP. This could be due to an additional functional head above

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v, or by merger to a position outside the scope of v (cf. the Repel operation of Craenenbroeck 2006).

6.3 Big Goals and Clitic Clusters

Similar assumption for clitics: they bear a feature/features ([NUMBER], [PERSON], etc,; see esp. Cardinaletti 2007. Roberts 2010).
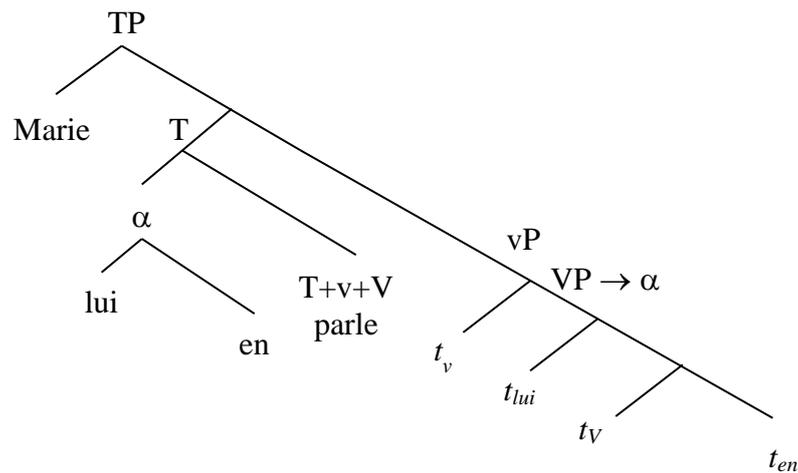
26) Marie **lui en** parle.   'Mary speaks to him about it.' (French)

7 Successive-cyclic movement: gone

How serious a problem is this?

7.1 Intermediate wh-agreement

27) Manu na isla   ni   masangani   hao man-ansias siha
    *which L island Comp **agr**.Pass-say.to you **agr**-anxious they*

pära uma-muv siha   guätu   *t* ?
*Fut **agr**-move they   over-there*

'Which island were you told that they are eager to move to?' (Chamorrow; from Chung 1998:211)

But under Weak Transfer, each stage of Transfer leaves unvalued Op-features visible to any Probe, whether or not they move. *In situ* analysis works fine.

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- Hypothesis: intermediate wh-agreement values features of Probe, but not of Goal.

28) . . . pära [$_{VP}$ **uma$_{uWH}$**-muv siha guätu [u$_{Op}$ **Manu na isla**]]
                Probe   Goal

8 Possible Extensions

8.1 Gapping

29) Frank gave cake to the boys, and **Mary** ~~gave~~ **cookies to the girls.**

Hypothesis: elements leftover in gapping share contrastive focus feature *f*. Ellipsis involves Transfer of FinP to LF, while Spell-Out of CP is shunted (i.e. "thrown away"). Transfer of FocP licenses remaining material.

8.2 VP Remnant Movement

So far we have assumed phase heads license and linearize with their complements, leaving unlicensed elements inside unlinearized:

30)

H > XP–YP,

YP
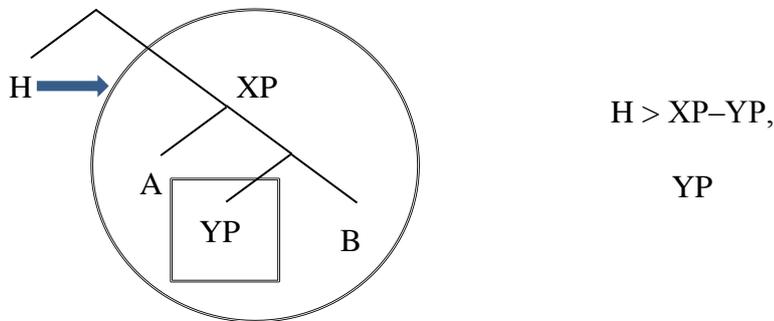
Possibility: an inversion of this, in which a phase head licenses something inside its complement, but not its complement as a whole:

31)

H > YP,

XP–YP

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I.e. a form of Distributed Spell Out. Consider German VP-fronting, leaving behind material not known to scramble:

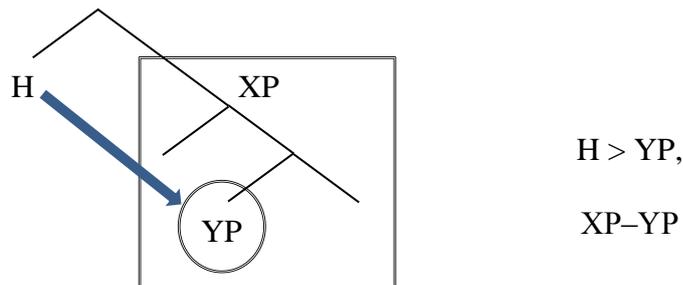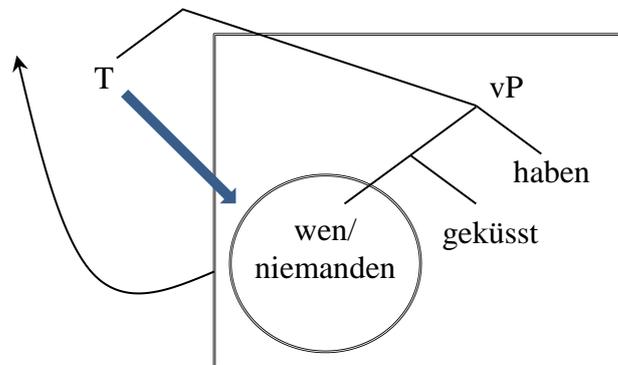32)   [vp Geküsst haben] wird er bestimmt schon **wen/niemanden**.

Two possibilities:

    a.   vP bears topic/focus feature

    This feature is not tolerated in the FinP/T domain (cf. van Craenenbroek 2006 on "Repel-f".). Remerge outside of FinP is licensed.

    b.   Linearization may optionally effect only a subpart or subparts of a spelled-out consituent

    What remains must Remerge at some point, where it will receive special interpretation. (This analysis presents possible problems for locality, if there is no licensing "Probe".)

As a result of T-phase Transfer of vP, *wen/niemanden* will be effectively "removed" from vP without movement. The Transfer Remnant vP is then fronted with what appear phonologically to be traces.

8.3 Crazy Kaynean Remnant movements

A problem for Kaynean approaches: XP raises to Spec HP to check/license a feature associated with H. But original order is restored by remnant movement to some mysterious Spec GP.

Example from Kayne 2005: Stylistic inversion (SCL = Silent Clitic)

33) a. [$_{IP}$ je crois que Jean-SCL est parti]   →
    b. Jean [F° [$_{IP}$ je crois que t_{Jean}-SCL est parti]]   →
    c. [$_{IP}$ je crois que t_{Jean}-SCL est parti][G° [Jean [F° t_{IP}]]]

F° can be plausibly associated with semantics associated with Stylistic Inversion of the subject. But what is G° but a place to put the IP?

Alternative analysis: some feature of F does not linearize against "invisible" non-subject material (34a), resulting in remerge or Transfer Remnant IP (34b).

34) a. [**F**$_f$° [$_{IP}$ je crois que **Jean**$_f$-SCL est parti]] *(F>Jean, rest of IP unlinearized)*
    b. [[$_{IP}$ je crois que ◎-SCL est parti] [F°[Jean]]]

Similar analyses for Heavy NP shift, rightward focus, etc.

Questions: When should remerger of the Remnant occur? Optimally, as soon as linearization would be licensed, i.e. in this case, right away. How to enforce this?

8.4   Predicate Clefts

Yoruba (examples from Kobele 2006):

35) **rira**   **fun ni**   o   ra   isu   fun   mi
    Nom-buy give Foc he buy yam give me
    "It was buy the yam for me that he did."

From [V$_1$ DP$_1$ V$_2$ DP$_2$] structure, only [V$_1$ V$_2$] is copied.

Tentative analysis: V elements are merged all sharing a focus feature. In vP phase, PF spells out and linearizes elements bearing focus feature u*f* by *ignoring* the feature. To avoid violation of recoverability of deletion, PF makes *extra copies* of V-elements bearing u*f*. These cannot be linearized without higher agreeing Foc°. Introduction of Foc° licenses linearization of these extra copies., drawn from the Transfer Remnant vP.

9   (Yet more) problems for future work

9.1   Islands (other than Relativized Minimality types)

36) a. *Which official do you know [$_{DP}$ the man next to t]?
    b. *Which official did [$_{TP}$ [$_{DP}$ friends of t] condemn the president]?

No game to play with +/- edge features or the like (cf. Richards 2012). Something like defective intervention may be going on (cf. Stroik 2009:

definiteness features of D "freeze" whP without checking them). Many island effects will have to amount to A-over-A violations, perhaps relativized over features.

9.2 Analyzing non-order-preservation

- This may generally be movement driven by features that are *not* shared (eg. person vs. number, focus vs. interrogative, inherent vs. structural Case, etc.).
- Looser constraints on lower elements of clusters (examples from Boskovic 1997):

37) a. Koj kogo kak e tselunal?
   who whom how is kissed
   'Who kissed whom how?'

   b. Koj kak kogo e tselunal?
   who how whom is kissed

   c. Koj kogo kuide e vidjal?
   who whom where is seen

   c. Koj kuide kogo e vidjal?
   who where whom is seen

9.3 Why do some languages form big goals and others not?

- Deep theoretical question concerning dynamic nature of labels (cf. Chomsky in press, Blümel 2012 ms., Rizzi 2012 ms.).
- Is there a relation between Big Goals and LF Absorption?

9.4 Intermediate landing sites and Binding Domains: does loss of successive cyclic movement through Spec CP cause trouble here?

38) [Which picture of himself] does John think [$_{CP}$ *t´$_{whP}$* [Mary likes *t$_{WhP}$*]]?

10 Conclusion

IFM movement to the Edge is theoretically problematic, complicates superiority, and leaves open the question of why feature-valuating movement often entails movement. By doing away with it, we retain base-generated hierarchical relations, and explain movement as a merger that "completes" the interpretation SO (in particular, its linearization).

The syntactically active parts of structures left over after Transfer are those which both 1. have not been fully interpreted, and 2. are visible, due to some shared feature, to some Probe (or other licenser) that can "advance" their interpretation (again, in particular, their linearization). Such pieces of structure, the Transfer Remnant, may behave as a group, since they are all contained in the phase that failed to fully interpret them at Transfer. This may account both for clustering phenomena of various kinds, and for problematic Remnant Movement cases where one or the other movement appears to be otherwise unmotivated.

The end