

# Generalized Integrity

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## 1. Movement

(1) Move = merge (i.e. no internal merge)

(2) *Merge*

- assignment operation assigning elements from the Numeration (N) to the Derivation (D)
- D = designated object being created (no 'interarboreal' operations)
- Merge assigns one element at a time to the derivation (binary branching)
- Merge does not deplete N, but specifies relations among elements in the workspace (workspace = N + D)

(3) *Asymmetry*

- D = a series of stages  $D_i, D_{i+1}, \dots, D_n$
- $D_0$  is empty
- Merge assigns  $\alpha \in N$  to  $D_i$  creating  $D_{i+1}$
- Merge does not create a set but a pair  $\langle \alpha, D_i \rangle$

(4) *The mereology of merge*

- Merge creates  $[_{D_2} a [_{D_1} b ]]$
- $b$  is part of something ( $D_1$ ) that  $a$  is not part of
- $b$  is part of everything ( $D_1, D_2$ ) that  $a$  is part of
- $[ a [ b ] ] \equiv \langle a, b \rangle$  (LCA:  $[ a [ b ] ] = / a b /$ )

(5) *Numeration*

- no restriction on the types of objects it contains (features, morphemes, words, phrases)
- $\alpha \in N$  may be the output of a previous derivation  $\Delta$  (= recursion)
- Generalized Integrity**: members of  $\Delta$  are invisible outside  $\Delta$
- The output of  $\Delta$  is an atom in the context of the N of the next  $\Delta$

## 2. Integrity and opacity

(6) *Lexical integrity*

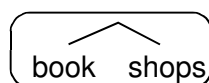
- I'm looking for book shops
- \*It's BOOK that I'm looking for — shops

(7) DERIVATION 1  $\longrightarrow$  DERIVATION 2

NUMERATION

book  
shops

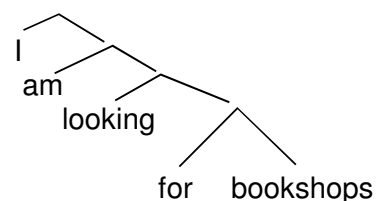
DERIVATION



NUMERATION

I  
am  
looking  
for  
**bookshops**

DERIVATION



- (8) a. He is a jack of all trades  
 b. \*All trades he's a jack of —  
 c. \*Of all trades he's a jack —
- (9) a. NUMERATION = / he, is, a, jack, of, all, trades / ⊗  
 b. NUMERATION = / he, is, a, [jack of all trades] /
- (10) *CED-effects*  
 Noncomplements are inserted as atoms in the derivation (i.e. as the output of a previous derivation)
- (11) The man hit the ball
- Candidate numerations: a. / the, man, hit, the, ball /  
 b. / the, man, hit, [the ball] /  
 c. / [the man], hit, the, ball /  
 d. / [the man], hit, [the ball] /  
 e. / [the man], [hit the ball] / etc.
- (12) (11a) and (11b) give us the wrong constituency (assuming bottom-up merge):
- (11a) ball  
 (11a,b) the ball  
           hit [ the ball ]  
           man [ hit the ball ]  
           ⊗ the [ man hit the ball ]
- (13) a. It was the CAR of which they arrested the driver —  
 b. \* It was the CAR of which the driver — caused a scandal  
 c. \* It was the CAR of which we left because of the driver —  
 d. It was the CAR of which the driver — was arrested
- (*but: ✓of which car did they believe the driver — to have caused a scandal?* )
- (14) *Guiding thought*  
 When subextraction out of P is impossible, P may be the output of a previous derivation (explanation: Generalized Integrity).

### 3. Interface

- (15) *Working hypothesis*  
 The output of a derivation is interpreted at the interfaces (i.e. a derivation is a phase)
- (16) What happens at the interface point between derivation layers?
- conventionalization (words, idioms)
  - categorization (category of output is established)
  - 'reanalysis' (syntactic projection may be overruled)
  - morphological realization ('countercyclic')
  - atomization (opacity)
  - interpretation (relevant to gapping)

### 3.1 Conventionalization

(17) John kissed Mary

Candidate numerations: a. / John, PAST, v, kiss, Mary /  
b. / John, PAST, [ v + kiss ], Mary /

(18) v and V never separated in a derivation: v-V complex is an atom.

(19) 'Lexical syntax' (Hale & Keyser) is simply what happens in a previous derivation.

(20) Richards (2001)

a. give the boot = CAUSE [ HAVE the boot ]  
b. get the boot = BECOME [ HAVE the boot ]  
v P NP

(21) If correct, *have the boot* is also the output of a previous derivation (i.e. an idiom), with a conventional meaning 'deprived of job'. Being an atom, it may function as a root to which *v* merges in the next derivation layer.

(22) a. They were dancing the hully-gully  
b. He shelved the books on the mantelpiece

(23) a. / ..., put, [the books], on, shelf, on, mantelpiece, ... /  
b. 1. / put, on, shelf / = *shelve*  
2. / ..., [shelve], [the books], on, the, mantelpiece, ... /

(24) Output of derivation 1 is conventionally interpreted by "PF" and "LF" as *shelve*

(25) similarly with N-N compounds: ball + point = ballpoint (*pen*)  
foot + ball = football (*soccer*)

### 3.2 Categorization

(26) predicative compounds: redneck < neck [ BE red ]

(27) *Righthand Head Rule* (RHR)  
The rightmost morpheme determines the category of a complex word

(28) Why RHR in nice head-initial languages like English (and Dutch) ?

(29) RHR is an interface rule, effecting linear reordering

- a. Die man is trots op z'n auto  
that man is proud of his car
- b. \* Een trots(-e) op z'n auto(-e) man  
a proud(-NNTR) of his car(-NNTR) man
- c. Een zo trots mogelijk-e man  
a so proud possible-NNTR man  
'A maximally proud man.'
- d. Een zo trots op z'n auto mogelijk-e man  
a so proud of his car possible-NNTR man

Dutch

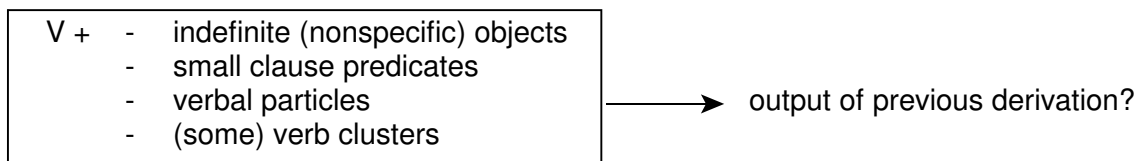
- (30) Analysis: a. (29b) *trots op z'n auto* is not A-final, not interpretable as A(P)  
 b. (29c) *zo trots mogelijk* is A-final, interpretable as A(P)  
 c. (29d) like (29c)

- (31) cf. Een op z'n auto trots-e man  
 a of his car proud-NNTR man

- (32) *Potential implication*  
 The RHR is the source of head-finality (in head-initial languages/universally)

- (33) Why is the Dutch VP head-final?

- a. not completely head-final: OBJ<sub>DEF</sub> (...) OBJ<sub>INDEF</sub> V CLAUSE  
 b. definite objects are scrambled to the left (for an 'object-EPP' feature?)  
 c. head-finality limited to a few contexts:



- (34) *Verb second seems to argue directly against the idea*

- a. ..dat ik hem op-bel  
 that I him up-call  
 '..that I call him (on the phone).'
- b. Ik bel hem op  
 I call him up  
 'I call him (on the phone).'

- (35) *But what if V2 is 'phonology' ?* (cf. Zwart 2001 vs. Zwart 2005)

- a. Op-bellen doe ik hem niet  
 up-call do I him not
- b. \* Bellen doe ik hem niet op
- c. \* Op doe ik hem niet bellen

- (36) a. Rood-verven doe ik dat hek niet  
 red-paint do I that fence not
- b. \* Verven doe ik dat hek niet rood
- c. \* Rood doe ik dat hek niet verven

- (37) a. Horen praten heb ik hem niet  
 hear:INF talk:INF have:1SG I him not
- b. \* Praten heb ik hem niet horen
- c. \* Horen heb ik hem niet praten

- (38) a. iets gedaan heeft hij niet vaak  
 smthing done has he not often  
 'He has not often done anything.'
- b. ? Gedaan heeft hij niet vaak iets  
 done has he not often something  
 'He didn't often do a particular thing.'
- c. iets heeft hij niet vaak gedaan  
 something has he not often done  
 'There is something he didn't do often.'

(39) RHR (27) also explains the category of coordinate structures

(40) Derivation 1 yields  $[_{&P} NP [ \& NP ]]$

Turned into N(P) at the interface with Derivation 2

(&P must terminate a derivation, witness opacity (CSC), section 3.5 )

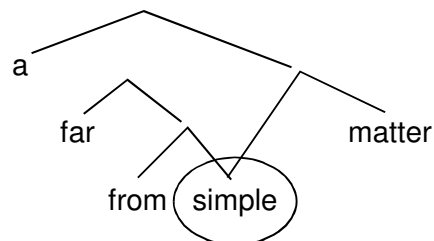
### 3.3 Reanalysis

(39) A [far from simple] matter

$[_{PP} \text{far} [ \text{from} [ \text{simple} ] ] ] > [_{AP} \text{far from} ] \text{ simple}$  (Kajita 1977)

(40) Interface effects: *far from simple* = (a kind of) simple  
*simple* (rightmost element) determines category = A

(41) No need for interarboreal operations (grafting, Van Riemsdijk 2007)



(42) He left for [ I think Budapest ]

(43) [ I think Budapest ] = [ MODAL Budapest ] ≈ possibly Budapest = NP (not TP)

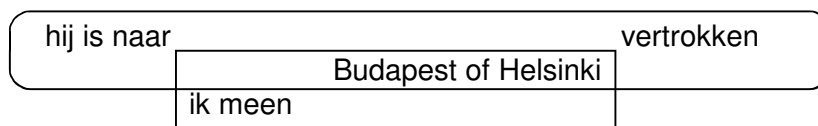
(44) a. NUMERATION 1 / I, think, Budapest / yielding [ I think Budapest ]  
 b. NUMERATION 2 / John, left, for, [ I think Budapest ] /

(45) The output of Derivation 1 is a clause, listed in Numeration 2 as a N(P), made possible by the semantic interpretation in (43)

(46) \* He left for [ I like Budapest ]

(47) a. \* What is that matter far from — ?  
 b. \* What did he leave for I think — ?

- (48) He left for { I think it was / \*I think he lives in } Budapest  
 He left for Budapest { I think it was / \*is the capital of Hungary }
- (49) Generalization: ‘grafting’ only allowed if the ‘graft’ expresses modal modification  
 (this follows on my analysis, since modal modification is what allows recategorization  
 at the interface between derivation layers)
- (50) a. He left for uh, Budapest  
 b. \*What did he leave for uh — ?
- (51) *Hypothesis*  
 Hedges (restarts, repairs) introduce the output of another derivation layer
- (52) cf. Levelt (1983): hedges mark constituent boundaries
- (53) He left for he said (it was) Budapest or Helsinki  
 a. he left for X, and X = B. or H., based on what he said (modal reading)  
 b. he left for X, and he said that X was B. or H. (de dicto reading)
- (54) He said it was Budapest or Helsinki (only *de dicto*)
- (55) Hij is naar ik meen Budapest vertrokken of Helsinki (Dutch)  
 he is to I think Budapest left or Helsinki  
 ‘He left for I think Budapest or Helsinki.’
- (56) a. **narrow scope:**  
 He left for one of two cities, the first being *possibly* Budapest, and the second  
*definitely* Helsinki  
 b. **wide scope:**  
 He left for some city, *possibly* Budapest or Helsinki
- (57) *Graft analysis of wide scope reading*



*gives wrong linearization* Hij is naar ik meen Budapest of Helsinki vertrokken

- (58) My analysis: *ik meen Budapest* is in focus, feeding a next numeration of just *of Helsinki*  
 (see section 3.5)

NUMERATION 1: / ik, meen, Budapest /  
 NUMERATION 2: / hij, is, naar, [ik meen Budapest], vertrokken /  
 NUMERATION 3: / of, Helsinki /  
 NUMERATION 4: / [ hij is naar ik meen Budapest vertrokken ], [ of Helsinki ] /

### 3.4 Morphology

- (59) When  $\alpha \in \mathbb{N}$  is assigned to  $D_i$ ,  $D_i$  becomes the dependent of  $\alpha$  in  $D_{i+1}$
- (60) money SCHMONY *dependency indicators:*  
 a. prosody c. semantics (predication)  
 b. linear order d. morphology

- (61) John<sub>3SG</sub> → [ kisses Mary ]<sub>3SG</sub>
- (62) Subject agreement is a dependency relation between the subject and its sister P, realized on a term of P (Zwart 2006)
- (63) All dependency relations are sisterhood relations (Zwart 1993, Epstein et al 1998)
- (64) a. [ John [ PAST → [ kissed [ Mary ] ]<sub>PAST</sub> ] ]  
 b. [ John [ PAST → [ kicked the bucket ]<sub>PAST</sub> ] ]
- (65) Morphology after syntax: systematically violates Generalized Integrity
- (66) Generalized Integrity is a condition of narrow syntax
- (67) Zwart 2005: Verb second is ‘positional dependency marking’ of the sister of the last element merged (i.e. verb = linker)

☐ systematic violation of Generalized Integrity under V2 (cf. (34))

- a. iemand zien zitten (Dutch)  
 someone see:INF sit:INF  
 ‘appreciate someone’
- b. ..dat ik hem niet zie zitten  
 that I him not see:1SG sit:INF  
 ‘..that I do not think he is any good.’
- c. Ik zie hem niet zitten  
 I see:1SG him not sit:INF  
 ‘I don’t think he’s any good.’
- d. [Zien zitten] doe ik hem niet  
 see:INF sit:INF do:1SG I him not
- e. \* Zitten doe ik hem niet zien
- f. \* Zien doe ik hem niet zitten
- g. ? Zitten zie ik hem niet echt  
 sit:INF see:1SG I him not really  
 (idiomatic reading more difficult)

### 3.5 Atomization

- (68) Every item merged is an atom, i.e. it has no parts that are visible to narrow syntax

— CSC

- (69) a. \*Who did John see [ Mary and — ]  
 b. \*I wonder who [ [John likes — ] and [ Bill hates Mary ] ]

- (70) *Logic now*

A coordinate structure is the output of an auxiliary derivation  
 (no difference between complement and noncomplement coordinate structures)

- (71) *Hypothesis*  
Coordination invariably involves a two-member numeration
- (72) *Multiple coordination*  
a. not: [ A + [ B + [ C + [ D ] ] ] ] etc  
b. but: [ [ [ A + B ] + C ] + D ] etc
- (73) Coordination is binary juxtaposition, possibly edge-marked by a conjunction
- (74) ingenia [fecunda] [totius-que naturae capacia] (Latin)  
minds fertile all:GEN-CONJ nature:GEN grasping  
'minds that are fertile and able to grasp the entire universe'
- (75) I saw JOHN the other day and BILL
- (76) [ I saw John the other day ] [ and Bill ]
- (77) *3 numerations*  
a. NUMERATION 1: / I, saw, John, [the other day] /  
b. NUMERATION 2: / and, Bill /  
c. NUMERATION 3: / [ I saw John the other day ], [ and Bill ] /
- (78) Numeration 2 is created on the basis of Numeration 1, by listing the alternatives to the focused members of Numeration 1 (section 3.6)
- (79) Exceptions to the CSC must involve complementation (a) or adjunction (b)
- the book he wanted to sit down and read — (*to read*)
  - the number of classes you can fail — and still get credit (*such that ...*)

— *phase theory*

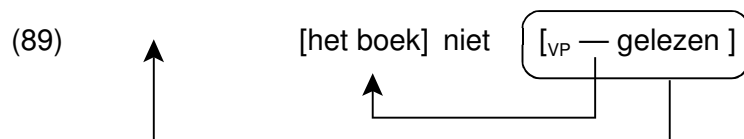
- (80) A previous derivation is a phase without an edge
- (81) Transparent CPs are not phases
- Who do you think you are — ?
  - Numeration: / you, (do), think, (that), you, are, who /
- (82) vP/VP is not a phase in the unmarked case (marked case: idioms, etc.)
- (83) Wh-islands: inherent phases? (merge of a wh-operator ends the derivation)
- (84) No spec-to-spec dependency (Lasnik & Saito 1984):
- who said what (✓pair list reading)
  - who told you [ what Bill said ] (\*pair list reading)
- (85) Complex NPs may involve adjunction of a clause (i.e. output of previous derivation)
- \*Which car did you hear the claim [ that Bill had fixed — ]



— *remnant movement*

- (86) Since every item is merged as an atom, reference to X-bar level status is irrelevant
- (87) No bar on merging a head to a phrase (in a ‘specifier position’; Vicente 2007): no global considerations of clausal cartography

(88) Gelezen heeft hij het boek niet (Dutch)  
 read:PART have:3SG he the book not  
 ‘He has not (actually) read the book.’



- (90) Since move = merge, we can simply merge the verb a second time
- (91) Question: do we ever move phrases that are not in the numeration, i.e. that are created in the course of the derivation ?

(92) a. Hij heeft daar niet [— op gerekend] (Dutch)  
 he has there not on counted  
 ‘He wasn’t counting on that.’

- b. \* [— Op gerekend] heeft hij daar niet —  
 c. [Daar op gerekend] heeft hij niet —

- (93) a. Jan vraagt Marie te komen  
 John asks Mary to come
- b. Jan probeert Marie te kussen  
 John tries Mary to kiss ‘John tries to kiss Mary.’
- c. \* [Marie te komen] vraagt Jan niet  
 d. [Marie te kussen] probeert Jan niet

(94) a. [even snel een handout in elkaar draaien] wil ik niet  
 just quick a handout together throw want I not  
 ‘I don’t want to just quickly throw a handout together.’

b. even snel een handout in elkaar draaien **dat** wil ik niet

- (95) Not clear the the mechanism of remnant movement is necessary (roll-up movement ??)

### 3.6 Interpretation

- (96) Single word responses are outputs of derivations (cf. hedges (50))
- (97) I saw JOHN the other day and BILL (cf. (75)-(78))
- (98) The N of the derivation yielding [and Bill] consists of all and only the alternatives to the focus elements in the output of the derivation yielding [I saw John the other day]

- (99) At the interface, off-setting may take place isolating the focused elements
- (100) Gapping:  
JOHN kissed MARY and BILL SUSAN
- Focused elements of D1: John, Mary  
N2: focus alternatives to *John* and *Mary* = / Bill, Susan /
- (101) syntactically, D1 yields a clause  
semantically, D1 (also) yields a list of (focused) NPs
- (102) Carrera Hernández (2006): languages with different conjunctions for clauses and NPs have no forward gapping.
- (103) Traditional approach in generative grammar: deletion/ellipsis of the missing verb (phrase)
- (104) *Evidence against ellipsis: no gap-remnant relations* (cf. Ross 1970:250)
- I want Bob to shave himself, and Mary \*(wants Bob) to wash himself
  - John heard noone object, and Bill \*(heard noone) say anything<sub>NPI</sub>
  - John kicked the ball, and Bill #(kicked) the bucket
- (105) Comparison with (75) suggests similar procedure as in (78) underlying (77)
- (106) *3 numerations*
- NUMERATION 1: / John, kissed, Mary /
  - NUMERATION 2: / and, Bill, Sue /
  - NUMERATION 3: / [ John kissed Mary ], [ and Bill Sue ] /
- (107) *Gapping anomaly* (Neijt 1979:30)  
Gapping is the only operation of core grammar that relates members of a coordinate structure
- (108) *Now*  
Gapping does not relate members of a coordinate structure, but two derivations along the lines of (78) — i.e. the focus structure of D<sub>1</sub> determines the numeration of D<sub>2</sub> — and the outputs of D<sub>1</sub> and D<sub>2</sub> are related via normal coordination (= merge)
- (109) *Locality conditions on gapping* (Neijt 1979:23f)
- Coordinate Structure Constraint**  
Alfonse cooked the rice and the beans and Harry \*(cooked the rice and) the potatoes
  - Sentential Subject Constraint**  
\*That Alfonse ate the rice is fantastic and ~~that Harry ate the beans is fantastic~~
  - Complex NP Constraint**  
\*Alfonse discussed the question of which rice we would eat and Harry ~~discussed the question~~ (of) which beans ~~we would eat~~
- (110) a. CSC: *the rice and the beans* is an atom in D<sub>1</sub>, therefore *the potatoes* cannot be listed in the numeration of D<sub>2</sub> as an alternative to *the beans*
- b. SSC: *that Alfonse ate the rice* is a noncomplement hence also an atom, and *Harry and the beans* cannot be listed in the next derivation as alternatives to *Alfonse and the rice*
- c. CNPC: arguable, a complex NP is also an atom (i.e. an island), hence *which beans* cannot be listed in the next derivation as an alternative to *which rice*.

- (111) \*John loves Mary and I think that Bill Sue
- (112) Explanation: the numeration of the second conjunct contains elements that are not alternatives to the focused material in the first
- (113) <sup>!</sup>John loves Mary and I think Bill Sue
- (114) Account: *I think* is not a matrix clause embedding *Bill (loves) Sue*, but a hedge element (see 3.3)

#### 4. Conclusion

- (115) 1. Simplest merge gives asymmetric structure (deriving linear order, dependency marking, asymmetric c-command)
2. Members of the numeration are atomic, i.e. possibly the output of a previous derivation
3. Opacity is explained by the Generalized Integrity Principle (i.e. follows from 2)
4. The output of each derivation is interpreted at the interfaces, before being listed as an atom in the numeration for the next derivation: hence conventional meaning, reanalysis, (re)categorization, offsetting for focus interpretation, opacity, and possibly even linear reordering yielding head-finality.
5. Overlap constraint (single mother condition) holds: when X and Y merge, there is no W which is part of both X and Y
6. Layered derivations provide an account for various coordination related phenomena, including the coordinate structure constraint, gapping, and phenomena analyzed elsewhere via suspect operations like grafting.
- (116) Further research:
- find out how much of opacity follows from layered derivations (i.e. GIP)
  - on a plausible interpretation, layered derivations take the place of phases, and the GIP that of the PIC, leading to the question whether we can do without phase edges in the analysis of locality phenomena
  - many idioms seem to be interwoven with elements of fully productive derivations (including ‘word idioms’ consisting of a root and little v), which is not expected or accounted for at this point
  - pursue the connection between head-finality in syntax and the RHR

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