The construction of layered derivations

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Exploring Crash-Proof Grammars, Carson-Newman College, Jefferson City TN, March 1, 2008

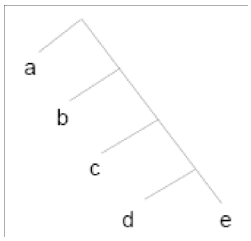
1. SIMPLEST MERGE 2. ORDER, INFORMATION, MORPHOLOGY
3. ITERATION VS. RECURSION 4. LAYERED DERIVATIONS 5. OPACITY

1. Simplest Merge

(1) *Every derivation needs*
a. a set of elements N manipulated in the course of the derivation (numeration)
b. a procedure establishing relations among the members of N (merge)

(2) *Simplicity*
a. merge manipulates a single element from N at each step of the derivation
b. merge manipulates each element from N only once

(3) *Concretely*
a. N = { a, b, c, d, e }
b. merge: split $x \in$ N off from N
c. merge_1 〈 a, { b, c, d, e } 〉
merge_2 〈 a, 〈 b, { c, d, e } 〉 〉
merge_3 〈 a, 〈 b, 〈 c, { d, e } 〉 〉 〉
etc. until we get 〈 a, 〈 b, 〈 c, 〈 d, 〈 e, ∅ 〉 〉 〉 〉 〉 = 〈 a, b, c, d, e 〉



(4) *What drives/ends Merge?*
a. start: the need to create order (information) among the members of N
b. end: the establishment of a total ordering of N

(5) *Features*
a. no need to assume uninterpretable features
b. no mysterious features (EPP)
c. no feature checking

(6) *Deviation from survive-minimalism*
a. no concept of survival (no remerge)
b. no feature-driven derivation (no crashing/stalling)
c. top-down (not crucial)

2. What merge yields

2.1 Order

(7) *Why split yields an ordered pair*
a. { a, { a, b } } ≡ 〈 a, b 〉 (Kuratowski 1921, Fortuny 2007)

b. derivational history: set of elements merged grows at each step

(cf. (3c))	$merge_1$	{ a }	derivation yields a nest of sets
	$merge_2$	{ a, b }	{ a, { a, b } } ≡ 〈 a, b 〉
	etc.		ultimately an ordered n-tuple

(8) *Linear Correspondence Axiom (revised from Kayne 1994)*
〈 a, b 〉 ≡ [a b]

2.2 Information

(9) *Derivational Approach to Syntactic Relations (Epstein 1995/1999)*
Syntactic relations are a function of merge

(10) N = { John, kissed, Mary } $merge_1$ 〈 John, { kissed, Mary } 〉

(11) *Generalization (N = Numeration)*
Merge α ∈ N turns N into the dependent of α

(12) *Dependencies*
predication, complementation, modification, scope, etc.

(13) The derivation yields a record of dependencies to be interpreted at the interfaces

2.3 Morphology

(14) *Morphology after syntax*
Morphology takes a syntactic object and returns a form

(15) *Features*
A form is selected from a paradigm on the basis of the features of the syntactic object

(16) *'Uninterpretable' features*
a. [number] on a predicate is not inherent, but a function of the dependency of a noun phrase
b. [number] must be spelled out on a term of the predicate (often the verb)
c. uninterpretable features are properties **emerging** in the course of the derivation as a function of merge

3. Iteration vs. recursion

(17) Split-merge is not recursive but iterative

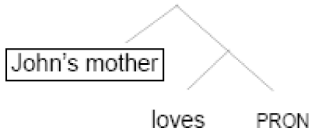
(18) Rule: 'Split N' (N constantly updated, cf. (3))

(19) *What is recursive about a derivation?*
Recursion: take the output of $Derivation_1$ and put it in the Numeration for $Derivation_2$
(cf. 'Workbench' idea of Putnam & Stroik 2008)

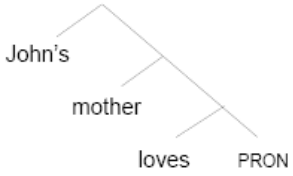
(20) Recursion is inevitable in all but the most elementary derivations

4. Layered derivations

(21) John's mother loves him/*himself
The mother of John loves him/*himself



(22) N = { John's, mother, loves, PRON }
yields 〈 John's, mother, loves, PRON 〉

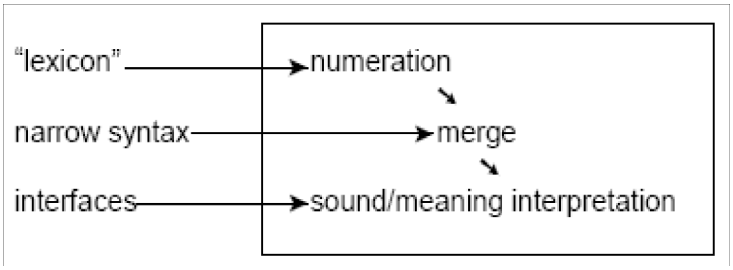


(Zwart 2002: *him* = spell-out of PRON, *himself* = spell-out of anaphoric PRON)

(23) N_1 = { John's, mother } yielding 〈 John's, mother 〉 = [John's mother]
N_2 = { [John's mother], loves, PRON } yielding 〈 [John's mother], loves, PRON 〉 = (21)

(24) *Parallel tree formation?*
Impossible in split-merge

(25) *Model of grammar (of each (sub)derivation)*



(26) The output of a subderivation passes through the interfaces

(27) Idiosyncratic sound/meaning properties: output of a separate subderivation
(idioms not created 'on the fly' as in Svenonius 2005)

(28) *Which elements are outputs of subderivations and why?*

	IDIOSYNCRATIC SOUND/MEANING	CONFIGURATIONAL REASONS	INTERPRETIVE STATUS
compounds	✔		
verbs (cf. Hale & Keyser)	✔		
idioms	✔		
specifiers		✔	
adjuncts		✔	
backgrounded material			✔

(29) *A test: generalized integrity*
Terms of a member of a numeration are invisible to merge (cannot be split)

(30) if N = { [**John's mother**], does, love, Bill }, split-merge never yields
*__John's__ does **mother** love Bill

(31) a. Lexical integrity
b. Idiom integrity: *All trades he's a jack of
c. Subject/adjunct opacity (cf. Toyoshima 1997)
d. Opacity of backgrounded material (cf. Goldberg 2006, chapter 7)

(32) a. It bothered Sue [that the mayor smoked cigars]$_{\text{PRESUPPOSED}}$
b. ??What did it bother Sue [that the mayor smoked] ?

(33) *The V-v complex*
a. Idiosyncratic sound/meaning pairing (*kill* ≠ cause to become not alive)
b. Integrity (V-v conflation is exceptionless in most analyses)
c. It follows that arguments are not generated inside the V-v complex
d. Argument structure is the *interpretation* of a configuration (Hale & Keyser 1993)

(34) Allows for 'base-generation' of arguments in their Grammatical-Function (GF) position

5. Opacity

(35) *A'-movement raises problems*
a. Which car did they arrest the driver of (predicted: complement not output of sep. der.)
b. * Which car did the driver of cause a scandal (predicted: subject island)
c. Which car was the driver of arrested (predicted on bottom-up, not on top-down)
d. Which car did they see the driver of cause a scandal (not predicted)

(36) Observation: extraction out of subjects not universally disallowed and anyway better than extraction out of adjuncts (Stepanov 2001)

(37) Further problem: connectivity effects show that wh-elements belong in a GF-position, not in an argument position

(38) W**en** hast du gesehen ? (German)
who:ACC have:2SG 2SG:NOM seen 'Who did you see?'

(39) *Further observation: strange factors relevant to acceptability of A'-movement:*
a. discourse status (Erteschik-Shir 1973, Goldberg 2006)
b. event structure (Truswell 2007)
c. processing difficulty (Kluender 1998)
d. semantic factors (Szabolcsi & Zwarts 1993, Honcoop 1998)

(40) *How special is A'-movement?*

(41) a. A wh-element is a double atom
b. A wh-clause is a double atom

(42) N = { who, you, saw } yields not [who you saw]
but [who] [you saw]

(43) *Truswell facts*
a. What did John come in whistling ?
b. * What did John work whistling ?

(44) *Derivation of the adjunct clause*
N = { whistling, what } yields [[whistling] [what]]

(45) *Next derivation gives a choice*
N_a = { [[whistling] [what]`], did, John, [come in] }
N_b = { [what], did, John, [come in] }
N_c = { John, [come in], [whistling] }

(46) The success of (43a) is a function of the success of N_c in (45) yielding an interpretable object at the interfaces (i.e. representing a single event, Truswell's generalization)

(47) *Final derivation then*
N = { [what], did, [John come in whistling] }

(48) *Relevance of backgrounding* (cf. (33))
a. ?? What did it bother Sue that the mayor smoked
b. What do you think that the mayor smoked
c. [what] [that the mayor smoked]
d. *think + [that the mayor smoked]* readily interpretable as a unit (verb of propositional content)
bother Sue + [that the mayor smoked] more difficult, as the clause has presupposed content

(49) *Applicability to wh-islands*
a. * Who did you wonder why Bill kissed
b. N_1 = { why, Bill, [kissed], who } yielding [[why] [Bill kissed who]]
c. to get (49a), *who* would have to be part of a double atom

(50) *Other example of a split in the output of a subderivation*
a. I saw JOHN the other day and BILL
b. JOHN loves MARY and BILL SUE

(51) *Split*

a.	focus:	John	John, Mary
b.	focus-related topic (FRT, Tancredi 1992):	I saw *x* the other day	*x* loves *y*

(52) *Coordination*
a. unlike categories
b. sensitive to part of the output, namely a list of focus elements

(53) The N of the derivation yielding [and Bill], [and Bill Sue] consists of all and only the alternatives to the focus elements in the output of the derivation yielding [I saw John the other day], [John loves Mary]

6. Conclusion

(54)
1. the simplest derivations are layered
2. the output of each subderivation is interpreted at the interfaces
3. the output of a subderivation is in principle atomic, yielding generalized integrity
4. A'-movement seems to require a noncanonical 'double atom' output, with conditions on acceptability sensitive to the possibility of merging part of the double atom separately

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