# Gapping without gaps

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## 1. Introduction

(1) *Gapping*
JOHN loves MARY and BILL SUE (*sc.* Bill loves Sue)

(2) *Standard analysis: clausal coordination + ellipsis*
[$_{TP}$ John loves Mary ] and [$_{TP}$ Bill ~~loves~~ Sue ]

(3) a. ellipsis of the verb (Ross 1967, Hartmann 2000)
b. ellipsis of a remnant VP (Jayaseelan 1990, Coppock 2001)

(4) *Alternatives:*
a. clausal coordination, but no ellipsis (Chao 1988)
b. vP-coordination, no ellipsis (Johnson 2006)
c. incomplete category coordination (WYSIWYG) (Steedman 1990)

(5) *Gapping as a rule of core grammar*
a. configurational matrix [local, bi-unique, c-command/precedence] (Koster 1987, 1998)
b. bounding condition (Neijt 1979)

(6) *Locality conditions on gapping* (Neijt 1979:23f)
a. **Coordinate Structure Constraint**
Alfonse cooked the rice and the beans and Harry *(cooked the rice and) the potatoes
b. **Sentential Subject Constraint**
*That Alfonse ate the rice is fantastic and ~~that~~ Harry ~~ate~~ the beans ~~is fantastic~~
c. **Complex NP Constraint**
*Alfonse discussed the question of which rice we would eat and Harry ~~discussed the question~~ (of) which beans ~~we would eat~~

## 2. Problems with the standard analysis (clausal coordination + ellipsis)

(7) *1. No gap-remnant interaction* (cf. Ross 1970:250)
a. I want Bob to shave himself, and Mary *(wants Bob) to wash himself
b. John heard noone object, and Bill *(heard noone) say anything$_{NPI}$
c. John kicked the ball, and Bill #(kicked) the bucket

(8) *2. Differences between gapping and VP-deletion/pseudogapping* (cf. Hartmann 2000, Johnson 2006)
a. VP-deletion/pseudogapping: both coordination and subordination
Gapping: only coordination (9)
b. VP-deletion/pseudogapping: in embedded contexts
Gapping: not in embedded contexts (10)
c. VP-deletion/pseudogapping: adverbs/negation allowed
Gapping: no adverbs/negation (11)
d. VP-deletion/pseudogapping: reversal possible ['backwards anaphora']
Gapping: no reversal possible (12)
e. VP-deletion/pseudogapping: mismatches occur
Gapping: no mismatches (13)

(9) *subordination*
a. John kissed Mary before Bill did (VP-deletion)
b. *John kissed Mary before Bill Sue (gapping)
c. John kissed Mary on the mouth before Bill could on the cheek (pseudogapping)

(10) *embedding*
a. John kissed Mary, and I'm pretty sure that Bill did too (VP-deletion)
b. *John kissed Mary, and I'm pretty sure that Bill Sue (gapping)
c. John kissed Mary on the mouth, but I'm pretty sure that Bill will on the cheek (pseudogapping)

(11) *additional material*
a. John kissed Mary, as Bill did *yesterday* / but Bill *didn't* (VP-deletion)
b. John kissed Mary, and Bill Sue (**yesterday*) / but Bill (**not*) Sue (gapping)
(cf. Aelbrecht 2006 on Stripping)
c. John kissed Mary on the mouth, but Bill *won't* on the cheek *tomorrow* (pseudogapping)

(12) *reversal*
a. Bill didn't, but John did kiss Mary (VP-deletion)
b. *Bill Sue, and John did kiss Mary (gapping)
c. Bill didn't even on the cheek, but John did kiss Mary on the mouth (pseudogapping)

(13) *mismatches*
a. Mary was kissed by John, before Bill did Sue (VP-deletion)
b. *Mary was kissed by John, and Bill Sue (gapping)
c. Mary was kissed by John on the mouth, before Bill could Sue (even) on the cheek (ps.gap.)

(14) *3. Gapping anomaly (Neijt 1979:30)*
Gapping is the only operation of core grammar that relates members of a coordinate structure

(15) *4. Typological generalization (Carrera 2006)*
Languages with different conjunctions for clauses and NPs have no (forward) gapping

(16) *Wolof: clausal coordinator **te**, NP-coordinator **ag**/**ak***
* Jënd naa woto te yow mobilette
to:buy PERF:1SG car and you motorbike
'I bought a car and you a motorbike.'

## 3. A WYSIWYG analysis

(17) John kissed Mary and Bill Sue
*WYS = clause* *WYS = string of NPs*

(18) explains immediately:

a. no gap-remnant interactions: there is no gap (cf. (7))
b. only coordination: second member is not a clause, hence no subordination (cf. (9))
c. not in embedded contexts (no complementizer): no clausal coordination (cf. (10))
d. no additional material (adverbs/negation): no clause hosting such elements (cf. (11))
e. no mismatches: no clause, no verb, no voice manipulation possible (cf. (13))
f. Neijt's anomaly: no cross-clausal relation (cf. (14)
g. Carrera's generalization: coordinating unlike categories, no lexical item for the coordinator (cf. (15))

(19) $[_{TP}$ I bought a car ] & $[_{NP}$ [ you ] [ motorbike ] ] no lexical item for *&*
*clause* *NPs*

(20) Not immediately explained:
a. linear order (cf. (12))
b. the locality effects (cf. (6))
c. how gapping works

## 4. Simplest Merge

(21) *Narrow syntax requires*
a. a set of elements = Numeration
b. an object under construction = Derivation

(22) *Standard view of the derivation*
a. select 2 elements *x, y* from the Numeration
b. combine *x* and *y* yielding A
c. select *z* from the Numeration
d. combine *z* and A yielding B
e. etc.

(23) *Simpler version*
a. select *x* from the Numeration
b. put *x* in the derivation
c. select *z* from the Numeration
d. put *z* in the derivation
e. etc.

(24) *Movement*
a. no internal merge
b. selected elements from the Numeration stay in the Numeration
c. move = remerge: select from the Numeration a second time

(25) *Even simpler version* (work with Jordi Fortuny)
a. Numeration ($N^3$) = { x, y, z }
b. within $N^3$, select *x* creating A = ⟨ x, $N^2$ = { y, z } ⟩ i.e. a pair consisting of the element selected and the residu of the Numeration
c. within $N^2$, select *y* creating B = ⟨ y, $N^1$ = { z } ⟩
d. etc.

(26) a. top-down derivation
b. no movement
c. linear order is a function of merge (a nest of ordered pairs), cf. Fortuny 2007

⟨ x, ⟨ y, ⟨ z, ∅ ⟩ ⟩ ⟩ = ⟨ x, y, z ⟩

(27) *Linear Correspondence Axiom*
⟨ x, y ⟩ = / x y /

## 5. Layered derivations

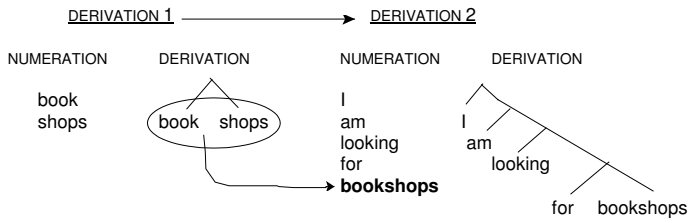
(28) *Numeration*
a. no restriction on the types of objects it contains (features, morphemes, words, phrases)
b. α ∈ N may be the output of a previous derivation Δ (= recursion)
c. **Generalized Integrity**: members of Δ are invisible outside Δ
d. The output of Δ is an atom in the context of the N of the next Δ

(29) *Working hypothesis*
The output of a (sub)derivation is interpreted at the interfaces (i.e. a derivation is a phase)

(30) What happens at the interface point between derivation layers?
a. conventionalization (words, idioms)
b. categorization (category of output is established)
c. 'reanalysis' (syntactic projection may be overruled)
d. morphological realization ('countercyclic')
e. atomization (opacity)
f. interpretation (relevant to gapping)
http://www.let.rug.nl/zwart/docs/ho07hvd.pdf

(31) *Lexical integrity*
a. I'm looking for book shops
b. *It's BOOK that I'm looking for — shops

(32)




(33) a. He is a jack of all trades
b. *All trades he's a jack of —
c. *Of all trades he's a jack —

(34) a. NUMERATION = / he, is, a, jack, of, all, trades / ☹
b. NUMERATION = / he, is, a, [jack of all trades] /

(35) *CED-effects*
Noncomplements are inserted as atoms in the derivation (i.e. as the output of a previous derivation)

(36) 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.

(37) (36a) and (36b) give us the wrong constituency:

⟨ the ⟨ man ⟨ hit ⟨ the ⟨ ball ⟩ ⟩ ⟩ ⟩ ⟩

(38) 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? )

(39) *Guiding thought*
When 'subextraction' out of P is impossible, P may be the output of a previous derivation (explanation: Generalized Integrity).

## 6. Gapping

(40) *Single word responses (fragment answers) are outputs of derivations*
(Who did John kiss?) Mary.

(41) *Extraposed coordinands too*
I saw JOHN the other day and BILL

(42) Numeration 1 = / I, PAST, see, John, [the other day] /
Numeration 2 = / Bill /
Numeration 3 = / [ I saw John the other day ], and, [ Bill ] /

(43) *Hypothesis about coordination (deriving Coordinate Structure Constraint)*
a. Coordinands are outputs of separate derivations
b. Coordination yields output of a separate derivation

(44) *The relevance of focus*
The N of the derivation yielding [ Bill ] (cf. (42)) consists of all and only the ALTERNATIVES TO THE FOCUS ELEMENTS in the output of the derivation yielding [I saw John the other day]

(45) *Interface effect (interpretation)*
At the interface, off-setting may take place isolating the focused elements

(46) *Gapping*
JOHN kissed MARY and BILL SUE

Numeration1 = / John, PAST, kiss, Mary / Output 1 = / John kissed Mary /

Focused elements of Output1: John, Mary

Numeration 2 = / Bill, Sue / Output 2 = / Bill Sue /
focus alternative to *John* = Bill
focus alternative to *Mary* = Sue

Numeration 3 = / [John kissed Mary], and, [Bill Sue] / Output 3 = (1)

(47) *Interface effect (categorization)*
syntactically, Output 1 is a clause (TP)
semantically, Output 1 (also) yields a list of (focused) NPs

## 7. Addressing the questions that remained (cf. (20))

(48) *Linear order* (cf. (8d)/(12))
Numeration 2 is the product of the focus structure of Output 1
Output 2 created after Output 1
Numeration 3 is ordered

(49) *Deriving the order*
Possibly, *and* is part of Numeration 2 in (42) and (46), so that Numeration 3 has no new lexical material (*and* as a linker of the second member, cf. Zwart 2005)

(50) *Locality conditions on gapping (Neijt 1979:23f)*
a. **Coordinate Structure Constraint**
Alfonse cooked the rice and the beans and Harry *(cooked the rice and) the potatoes
b. **Sentential Subject Constraint**
*That Alfonse ate the rice is fantastic and ~~that~~ Harry ~~ate~~ the beans ~~is fantastic~~
c. **Complex NP Constraint**
*Alfonse discussed the question of which rice we would eat and Harry ~~discussed the question~~ (of) which beans ~~we would eat~~

(51) a. CSC: *the rice and the beans* is an atom in Numeration1, therefore *the beans* cannot be a separate focus element in Output1 and *the potatoes* cannot be listed in Numeration2 as an alternative to *the beans*

b. SSC: *that Alfonse ate the rice* is a noncomplement hence also an atom (cf. (36)) in Numeration1, therefore *Alfonse* and *the rice* cannot be focus elements in Output1, and *Harry* and *the beans* cannot be listed in Numeration2 as alternatives to *Alfonse* and *the rice*

c. CNPC: arguable, a complex NP is also an atom in Numeration1 (i.e. an island, output of separate derivation), hence *which rice* cannot be a focus element in Output1, and *which beans* cannot be listed in Numeration2 as an alternative to *which rice*.

(52) *returning to embedded contexts*
*John loves Mary and I'm pretty sure that Bill Sue (cf. (10))

(53) *Explanation*
Numeration2 contains elements that are not alternatives to the focused material in Output1

(54) [I]John loves Mary and I think Bill Sue

(55) *Account*
*I think* is not a matrix clause embedding *Bill (loves) Sue*, but a hedge element

(56) John left for [I think Budapest] (cf. Zwart 2006)
(*the city John left for I think)

(57) *returning to additional material*
*John kissed Mary but Bill not Sue (cf. (11))

(58) *not* in Numeration2 is not an alternative to focused material in Output 1

(59) *Dutch: negation can be focus alternative to affirmative particle*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| JAN | kust | MARIE | WEL | en | PIET | TRUUS | NIET |
| John | kisses | Mary | AFF | and | Pete | Trudy | NEG |

## 8. Conclusion

(60) 1. Top-down derivation using simplest merge and layered derivations allows for a WYSIWYG analysis of gapping without gaps
2. Constraints on gapping follow from (a) Generalized Integrity, (b) the idea that the numeration for the 'gapped' 'clause' contains all and only alternatives to focus elements of the antecedent clause

(61) *Applicability to other ellipsis constructions?*

| | | |
|---|---|---|
| a. fragment answers | ✔ | |
| b. extraposed coordination | ✔ | |
| c. stripping | ✔? | John kissed Mary, { but not Bill / and Bill, too } |
| d. sluicing/swiping | ✔? | I wonder { why / what for } |
| e. right node raising | ✔? | [John loves and Bill hates] Mozart |
| f. N-gapping | ✔ | John kissed one cheek, and Bill two |
| g. NP-deletion | ✘? | John has kissed one cheek, and Bill has two |
| h. pseudogapping | ✘? | |
| i. VP-deletion | ✘? | |

(62) *VP-deletion with obligatory strict reading of elided material*
[ People who live in New York$_i$ ] write to the Trib on the condition of its$_i$ beaches,
and [ people who live in Los Angeles$_j$ ] do, too
(strict: they write on the condition of New York's beaches)

(63) *Same construction with gapping: sloppy reading becomes available again*
[ People who live in NEW YORK$_i$ ] write to the TRIB on the condition of its$_i$ beaches,
and [ people who live in LOS ANGELES$_j$ ] to the LA TIMES
(sloppy: they write on the condition of LA's beaches)

(64) VP-deletion is failure to spellout at PF (cf. Tancredi 1992, Vanden Wyngaerd & Zwart 1999)

## References


Aelbrecht, L. 2006. Stripping the gap: stripping and gapping in Dutch. Paper presented at the 3rd Syntax AIO Meeting, Tilburg, November 23.
Carrera Hernández, A. 2006. Gapping as a syntactic dependency. *UCL WPIL* 16, 241-267.
Chao, W. 1988. *On ellipsis*. New York: Garland.
Coppock, R. 2001. Gapping: in defense of ellipsis. *CLS* 37, 138-148.
Fortuny, J. 2007. *The emergence of order in syntax*. UBarcelona diss.
Hartmann, K. 2000. *Right node raising and gapping: interface conditions on prosodic deletion*. Amsterdam: Benjamins.
Jayaseelan, K. 1990. Incomplete VP-deletion and gapping. *LA* 20, 64-81.
Johnson, K. 2006. Gapping isn't (VP) ellipsis. Ms., UMass Amherst.
Kerstens, J. 1981. Bestaat Gapping eigenlijk wel? *Spektator* 11, 61-79.
Koster, J. 1987. *Domains and dynasties*. Dordrecht: Foris.
Koster, J. 1998. Gapping moet blijven. *Tabu* 28, 99-106.
Neijt, A. 1979. *Gapping: a contribution to sentence grammar*. Dordrecht: Foris.
Prüst, H. 1992. On discourse structuring, VP anaphora and gapping. Diss Amsterdam.
Ross, J.R. 1967. *Constraints on variables in syntax*. Diss MIT.
Ross, J.R. 1970. Gapping and the order of constituents. In *Progress in linguistics: a collection of papers*, M. Bierwisch & K.E. Heidolph, eds., 249-259. The Hague: Mouton.
Steedman, M. 1990. Gapping as constituent coordination. *L&P* 13, 207-263.
Tancredi, C. 1992. *Deletion, deaccenting and presupposition*. Diss MIT.
Vanden Wyngaerd, G. & J.W. Zwart. 1999. Antecedent-contained deletion as deletion. *LIN 1999*, 203-216.
Zwart, J.W. 2005. Some notes on coordination in head-final languages. *LIN 2005*, 232-241.
Zwart, J.W. 2006. Over het enten van interpolaties. *Tabu* 35, 163-180.



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