The Syntax of the English Comparative Clause
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Lectures on the Syntax and Semantics of Gradability and Comparison
Kyushu University, August 2000

1 Comparatives in English

Comparative deletion (CD)

(1) a. The galaxy contains more stars than the eye can see.
   b. At that time, sea level was not as high as it later became.
   c. My sister drives as carefully as I drive.

CD requires the entire compared constituent to be “missing” from the comparative clause:

(2) a. The galaxy contains more stars than the eye can see stars.
   b. At that time, sea level was not as high as it later became high.
   c. My sister drives as carefully as I drive carefully.

Exception: when the compared constituent is focused, it can stay (Chomsky 1977).

(3) A: This desk is higher than that one is wide.
   B: What is more, this desk is higher than that one is HIGH.

(4) Watching the Cubs on his satellite dish has been almost as difficult for Beck as
   watching Beck close games has been difficult for the CUBS. (Chicago Tribune 6.8.99)

Comparative subdeletion (CSD)

(5) a. [Michael Jordan] has more scoring titles than Dennis Rodman has __ tattoos.
   (Chicago Tribune [CT], 7.17.98: s4, p7)
   b. The shapes seem to be longer than they are thick. (Bear, Greg., 1997, Slant, New
      York, Tor, p. 262)
   c. Grace hit as poorly in this series as he hit __ well in the 1989 playoffs. (adapted from
      example in CT, 10.4.98: s3, p6)

CSD requires a degree word to be missing from the comparative clause:

(6) a. Michael has more scoring titles than Dennis has two many tattoos.
   b. The shapes seem to be longer than they are 2 inches that thick.
   c. Grace hit as poorly in this series as he hit very quite well in the 89 playoffs.

Note: Following e.g. Napoli 1982, I assume that comparative ellipsis (CE) constructions like
those in (7) involve CD plus (different kinds of) ellipsis (Napoli 1983).

(7) a. The Cubs won more games last year than the Sox did __.
    b. The Cubs won more games last year than the Sox __.
    c. The Cubs won more games last year than anyone expected __.
    d. The Cubs won more baseball games than they did __ coin tosses.

The Question
Are CD and CSD derived in the same way? i.e., are the examples in (1) derived from
representations like those in (5)?

- Similarities suggest that the answer is “yes”
- Differences suggest that the answer must be “no”

The Answer
Both CD and CSD involve movement of the compared constituent (DP or DGP), but:

- In CD movement is overt; and in CSD movement is covert.
- This difference follows from general constraints on movement and deletion in a model
  in which syntactic representations are evaluated against ranked & violable constraints.

The Bigger Picture
- How general are constraints on deletion?
- What is the relation between deletion in movement and deletion in other environments,
  specifically ellipses.

2 The puzzle

2.1 Similarities between CD and CSD

2.1.1 Semantic equivalence

(8) a. Michael has more scoring titles than Dennis has (tattoos).
   b. the number of scoring titles that Michael has > the number of scoring titles
      that Dennis has

(9) a. Michael’s hands are as wide as my feet are (long).
   b. the width of Michael’s hands = the width | length of my feet

2.1.2 DCP effects (Ross 1967, Bresnan 1975, Chomsky 1977, Postal 1998)

Complex NP islands

(10) a. Michael has more scoring titles than Dennis is a guy who has.
   b. Michael has more scoring titles than Dennis is who has tattoos.

wh-islands

(11) a. The shapes were longer than I wondered whether they would be.
   b. The shapes were longer than I wondered whether they would be thick.

Adjunct islands

(12) a. My sister drives as carefully as I manage to avoid accidents when I drive.
   b. My sister drives as carefully as I end up getting into accidents when I drive
carelessly.

2.1.3 Crossover (Bresnan 1975, Chomsky 1977)

(13) a. More new students flunked than they expected __ to flunk.
   b. More new students flunked than they expected old students __ to flunk.

(14) a. More new students flunked than they; advisors expected __ to flunk.
   b. More new students flunked than they; advisors expected old students __ to flunk.
2.2 Differences between CD and CSD

2.2.1 PREPOSITION-STRANDING (Czech; see Corver 1990 for Dutch)

(15) *Který ch me & stech Vaclav bydlel ve?

Which city does Vaclav live in?

(16a) Bydlet vee ve víc me & stech nez ty bydlet v

live.PAST.1SG aux in more city.PL.GEN than you aux live.PAST.2SG in

‘I have lived in more cities than you have lived in.’

b. Chci bydlet vee víc americky ch me & stech ne z

want.1SG PRES/live.INF in more American city.PL.GEN than aux

bydlet v europsky ch me & stech

lived.PAST.1SG in European city.PL.GOC

‘I want to have lived in more American cities than I have lived in European cities.’

2.2.2 COMP-TRACE EFFECTS (Grimshaw 1987)

(17a) More books were published than the editor said (that) would be.

b. More boys flunked than I predicted (that) would pass.

(18a) More books were published than the editor said (that) articles would be.

b. More boys flunked than I predicted (that) girls would pass.

2.2.3 CONTRACTION (Grimshaw 1987)

(19a) I thought there was more meat than there is/’s.

b. John was more upset than he is/’s now.

c. She was as happy about it then as she is/’s now.

(20a) There’s more meat than there’s rice.

b. John was more upset than he’s angry now.

c. She was as happy about it then as she’s sad now.

2.2.4 PARASITIC GAPS (Grimshaw 1987)

(21a) I threw away more books than I kept without reading.

b. Jerome followed more leads than Arthur interrogated without arresting.

(22a) I threw away more books than I kept magazines (‘without reading).

b. Jerome followed more leads than Arthur interrogated suspects (‘without arresting).

2.2.5 MULTIPLE-BEADED COMPARATIVES (Corver 1990, 1993, Hendriks 1995)

(23a) Christmas makes as many children as happy as it makes adults unhappy.

b. Max persuaded more men to buy more cars than you persuaded women to buy trucks.

(24) The number of children that Christmas makes happy equals the number of adults that it makes unhappy and the degree to which Christmas makes children happy equals the degree to which it makes adults unhappy. (see von Stechow 1984)

(25a) Christmas makes as many children as happy as birthdays make.

b. Max persuaded more people to buy more cars than you persuaded to buy.

2.2.6 LEFT BRANCH CONSTRAINT (movement analyses)

(26a) Michael has 3[fr more 3[fr scoring titles] than [Op, Dennis has 3[fr e tattoos]

b. How many does Dennis have [fr e tattoos?

2.3 Summary

<table>
<thead>
<tr>
<th>interp</th>
<th>islands</th>
<th>xover</th>
<th>pstrad</th>
<th>compd</th>
<th>restr</th>
<th>prgaps</th>
<th>multi.</th>
<th>LBC</th>
</tr>
</thead>
<tbody>
<tr>
<td>CD</td>
<td>-</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>NO</td>
<td>-</td>
</tr>
<tr>
<td>CSD</td>
<td>-</td>
<td>YES</td>
<td>YES</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
<td>YES</td>
</tr>
</tbody>
</table>

There are compelling semantic and syntactic reasons for believing that CD and CSD are derived in basically the same way, but any analysis that makes this claim also needs to provide an explanation of the differences documented above.

3 Overt vs. covert movement in comparatives

3.1 Overview of the proposal

(28) English Comparative Formation (version 1)

i. CD involves overt movement of the compared constituent plus deletion under identity with the head of the comparative (cf. Chomsky 1977).

ii. CSD involves covert movement of the compared constituent.

This proposal assigns the structures in (29a-b) to (1a-b), where struck-through text indicates lexical material that is deleted from the PF representation.

(29a) The galaxy contains more stars than [fr[e stars] the eye can see [f]

b. Sea level was not as high as [fr[e high] it later became [f]

Since movement is overt, the LF and PF representations are the same (modulo deletion). Examples of CSD, on the other hand, differ at PF and LF:

(30a) Michael has more scoring titles than [fr[DP true] Dennis has [fr[tattoos]

b. Michael has more scoring titles than [fr[DP true] Dennis has [fr][tattoos]

(31a) The shapes are longer than [fr[e they are [fr[thick]

b. The shapes are longer than [fr[e they are [fr[thick]

CD and CSD are identical at LF in the relevant respects, but differ at PF, predicting that:

• CD and CSD should behave the same with respect to LF constraints, and

• any differences should be localized to PF.

3.2 The similarities

crossover, ecp effects, semantic equivalence : follow if LF of CD and CSD are the same

(32) Michael has more scoring titles than Dennis has [fr[tattoos].

(33a) ... than [fr[DP true] scoring titles] Dennis has [fr[e]

b. ... than [fr[DP true] tattoos] Dennis has [fr[e]
(34) Michael’s hands are wider than my feet are (long).

(33a) ... than [cl long/dep long] wide, my feet are [e].

b. ... than [cl long/dep long] my feet are [e].

For any a function from plural objects to amounts, P a plural NP meaning, Q a function from plural objects to truth values, and t a maximality operator (see von Stechow 1984, Rullmann 1995, Kennedy 1997b):

(36) Dp\query\comp = \lambda Q \exists X [\text{many}(X) \land d \land R(X) \land Q(X)]

(37a) d \exists X [\text{many}(X) \land \text{scoring_titles}(X) \land \text{have}(d, X)]

b. d \exists X [\text{many}(X) \land \text{tattoos}(X) \land \text{have}(d, X)]

For G function from objects to degrees, and Q a function from properties to truth values:

(38) \text{dep}_\query\comp = \lambda Q \exists \lambda X [Q(\lambda X) = d] \]

(39a) d \exists [\text{wide}(my-feet)] = d]

b. d \exists [\text{king}(my-feet)] = d]

3.3 The differences

3.3.1 Comp-trace effects, p-branding effects, contraction: all insensitive to LF-movement

(40a) Which editor said (that) how many books would be published this year?

b. Who predicted (that) how many boys would flunk?

(41) Kiolo bydel ve ktery ch med\query\stech?

who live, past 3 sg in which city, pl, loc

Who lives in which city?

(42a) Who said there’s how much rice?

b. Who’s how angry now?

3.3.2 Multiplyheaded comparatives

Multiply-headed CSD constructions are analogous to multiple-wh questions in English: more than one wh-phase can move at LF (Higginbotham & May 1981).

(43a) Christmas makes as many children as happy as it makes adults unhappy.

b. Christmas makes as many children as happy as [cl [or adults]] [d long unhappy]; it makes t: t]

Multiple overt A'-movement is generally impossible in English:

(44a) *The children, quite happy, Christmas will make t: t

b. *Which children, how happy, will Christmas make t: t

It follows that multiplyheaded CD should also be impossible:

(45a) *Xmas makes as many children as happy as birthdays make.

b. *Xmas makes as many children as [cl [or children]] [d long happy]; birthdays make t: t]

“Mixed” multiply-headed comparatives are correctly predicted to be OK:

(46a) Christmas makes as many people as happy as it makes unhappy.

b. Max persuaded more people to buy more cars than you persuaded to buy trucks.

(47a) Christmas makes as many people as happy as [cl [or people]] it makes t: t

b. Max persuaded more people to buy more cars than if [or people] you persuaded t: to buy [or trucks]]

3.3.2 Parastic gaps

The movement postulated to occur in CD is exactly the same as in how many questions, so the fact that parastic gaps are licensed in unsurprising:

(48a) I threw away more books than [for books], I kept t without reading e

b. [for How many books? did you keep t without reading e

Covert Abar movement doesn’t license parastic gaps, so neither should CSD:

(49a) *I threw away more books than [cl I kept [for papers]] without reading e

b. *Who kept [for how many papers] without reading e

However, as shown by Nissenbaum (1999), covert A'-movement can license a p-gap only if a first p-gap is already licensed by overt movement:

(50a) [for Which senator? did you convince t: to buy [for which car]] after getting an opponent of e to put a bomb in e

b. [for Which senator? did you persuade t: to buy [for which car]] after putting a bomb in e

CSD also license parastic gaps in such contexts, providing further support for the claim that it involves covert A'-movement (many thanks to Jon Nissenbaum for noticing this fact):

(51a) I persuaded as many senators to buy as many cars as [cl [or senators]] you persuaded t: to buy [for trucks], after getting opponents of e to put bombs in e]

b. *I persuaded as many senators to buy as many cars as [cl [or senators]], you persuaded t: to buy [for trucks], after putting bombs in e]

3.3.3 The left branch constraint revisited

Neither CD nor CSD actually involve movement of a left branch constituent, so no instantiation of the LBC comes into play.

(52a) Michael has more scoring titles than Dennis has tattoos.

b. The shapes are longer than they are thick.

(53a) *How many does Dennis have t: tattoos?

b. *How (much); were the shapes t: thick?

(54a) How many tattoos does Dennis have t?

b. How thick were the shapes t?

3.4 Interim summary

Proposal: CD involves overt A'-movement of the compared constituent; CSD involves covert A'-movement of the compared constituent.
4 Optimality in comparatives

4.1 Deletion and movement

The proposed derivational distinction between CD and CSD does a nice job of accounting for the facts, but a big question remains: why should CD and CSD differ in this way?

(55) a. "The galaxy contains more stars than the eye can see stars.
   b. "The galaxy contains more stars than [on planets] the eye can see t.[

Bresnan's objection (Bresnan 1975:62; see also Bosley 1984:281):

"To guarantee that only the maximally recoverable constituent is moved, one would have to place a special identity condition in the rule itself... [I]n this analysis, it becomes accidental that the moved constituents undergo deletion and that the elements moved just happen to be those which would be maximally recoverable if deleted."

→ Why do we get deletion only when we have movement and identity, and why do we get neither movement nor deletion when we don't have identity?

The answer to Bresnan's objection is that deletion is good, and movement is bad, but it's better to delete than to avoid movement.

(56) a. delete: Minimize the PF representation (Economy of Representation et al.),
   b. stay: No overt movement (Economy of Derivation et al.; Grimshaw 1997),
   c. recover: Deletions must be recoverable (undominated; Bengo and Lasnik 1972).

(57) delete ∪ stay (PFinterface).

4.2 Subdeletion

The optimal derivation in examples in which the compared XP is not identical to the head of the comparative is the one in which it remains in situ.

\begin{table}[h]
\centering
\begin{tabular}{|l|c|c|}
\hline
Tableau 1 & recover & delete & stay \\
\hline
a. Michael has more scoring titles than [on tattoos], Dennis has t. & * & * & \\
\hline
b. Michael has more scoring titles than [on tattoos], Dennis has t & * & * & \\
\hline
c. "Michael has more scoring titles than [on tattoos], Dennis has t] & * & * & \\
\hline
d. Michael has more scoring titles than [on tattoos], Dennis has t & * & * & \\
\hline
\end{tabular}
\caption{}
\end{table}

Why doesn't this analysis predict that English is a wh-in situ language?

(58) a. The flooding was less than what we had thought it would be.
   b. "The flooding was less than what we had thought it would be what.

Movement in comparatives that do not involve lexical wh-XPs is more like QR than question formation: it is motivated by the need to generate a definite description of a degree in the comparative clause (cf. Kennedy 1997a).


\begin{table}[h]
\centering
\begin{tabular}{|l|c|c|}
\hline
Tableau 2 & Q-scope & delete & stay \\
\hline
a. "The flooding was less than [on what, we had thought it would be t] & * & * & \\
\hline
b. The flooding was less than [on what we had thought it would be what] & * & * & \\
\hline
\end{tabular}
\caption{}
\end{table}

4.3 Comparative deletion

We want the optimal derivation in examples in which the compared XP is identical to the head of the comparative to be the one in which it moves and deletes...

\begin{table}[h]
\centering
\begin{tabular}{|l|c|c|}
\hline
Tableau 3 & delete & stay \\
\hline
a. "The flooding was less than [on tattoos], the eye can see t] & * & \\
\hline
b. The flooding was less than [on tattoos], the eye can see t] & * & \\
\hline
c. The flooding was less than [on tattoos], the eye can see [on tattoos]] & * & \\
\hline
d. The flooding was less than [on tattoos], the eye can see [on tattoos]] & * & \\
\hline
\end{tabular}
\caption{}
\end{table}

...but why isn't deletion without movement the best?

English doesn't allow deletion of nominals unless they are members of movement chains.

(59) a. Kim could see stars, but I couldn't see [on any tattoos].
   b. "Kim could see stars, but I couldn't see [on tattoos].
   c. [on How many stars] can you see [on how many tattoos]?

- Candidate (d) is ruled out by a higher ranking constraint (recoverability; see below).

(60) The galaxy contains more stars than [on tattoos], the eye can see [on tattoos]]

→ Because the members of the movement chain are identical to the head of the comparative, both copies can be deleted: CD is the optimal output of A-movement.

The analysis correctly predicts that identity without deletion should be unacceptable:

(61) The galaxy contains more stars than the eye can see (stars).
It also explains the acceptability of of lexically identical but contrastively focused material: deletion of the focus feature would violate RECOVER.

(62) A: My desk is longer than your desk is wide.
    B: More than that, your desk is longer than my desk is LONG!
(63) A: My desk is longer than your desk is wide.
    B: 'More than that, your desk is longer than long, my desk is e.'

4.5 Summary

(64) English Comparative Formation (final)
Move the compared constituent to the specifier of the complement of than.

(64) can be motivated semantically: the interpretation of the complement of than must be a
definite description of a degree (Russell 1905, Stechow 1984, Rullmann 1995, etc.).

Whether movement is overt or covert is determined by the ranking of DELETE and STAY.

→ There is no special operation of comparative (sub)deletion: the syntax of comparatives
in English can be accounted for in terms of the copy + delete theory of movement and the
competition between constraints on movement and deletion.

5 Movement and deletion

5.1 Varieties of deletion

There are at least two environments in which deletion applies: movement and ellipsis. Are
they the same (Chomsky 1995), or are they different? If they are different, then do we need
to assume a family of DELETE constraints, or can we get by with just one?

• Deletion in movement and deletion in ellipsis are different in at least four (three) ways.

1. Locality (Kennedy 1998, 1999)

In ellipsis, deletion may be licensed non-locally; in comparatives, deletion must be licensed
locally:

(65) a. The marbles are supposed to be near the books. If you see any, let me know.
    (If you see any marbles/books...)
    b. Smith said she would launch the rocket before she ate her lunch, but I don’t know if
       she has yet. (...if she has eaten her lunch/launched the rocket.)

(66) a. The marbles are supposed to be near the books. If you see more marbles than you
    see, let me know. (If you see more marbles than you see marbles/books...––)
    b. Now that the remodeling has been completed, the space station is longer than it
       used to be, and it’s even wider than it is. (...)it’s even wider than it is wide/long.

Hypothesis: Locality of copy deletion = locality of movement (Ross 1967).

2. Identity (Bach, Bresnan and Wasow 1974)

CD resists sloppy identity; ellipsis does not:

(67) a. Jones lost more of his hair than Smith lost. [[?Smith lost Jones’ hair]
    b. Jones lost more of his hair than Smith (did). [Smith lost his own hair]

(67a) involves deletion of a movement copy.

(68) Jones lost more of his hair than [much of his hair] than Smith lost.

(67b) has an analysis in which the compared constituent remains in situ and is captured by
VP-deletion (Kennedy and Merchant 1999, as we will see below, this is in fact the
only analysis). Since ellipsis allows sloppy identity, the sloppy reading of (67b) is expected.

(69) Jones lost more of his hair than [much of his hair]

Hypothesis: Copy deletion requires identity of indices; ellipsis requires “identity of sense”.

III. (APPARENT) OPTIONALITY

Deletion in ellipsis appears to be optional; deletion in movement is not.

(70) a. Dennis has more tattoos than Michael has. (tattoos).
    b. How many tattoos does Dennis have? (how many tattoos)?

(71) a. Dennis has more tattoos than Michael (does/has).
    b. Dennis has seven tattoos, and Michael has three (tattoos).

Constituents targeted for ellipsis are explicitly marked as such in the numeration with an
“E-feature” (Merchant 1999, Kennedy & Merchant 2000), which requires the identification
of an antecedent at LF. (This can be implemented in different ways: see e.g. Merchant’s (1999)
Egivness, Henge & May’s (1994) reconstruction; Sag’s (1978) alphabetic variance, etc.)

Optionality in ellipsis can be reduced to the presence/absence of I-marking:

• Deletion of a constituent that does not bear the E-feature violates recoverability, because
  there would be no instruction to find an antecedent
• Deletion of a constituent that bears the E-feature is obligatory.

<table>
<thead>
<tr>
<th>Tableau 4</th>
<th>RECOVER</th>
<th>DELETE</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) ... [XY] [YP] ...</td>
<td></td>
<td>![i]</td>
</tr>
<tr>
<td>(b) ![w] ... ![b] [XY] [YP] ...</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(c) ![w] ... ![b] [XY] [YP] ...</td>
<td></td>
<td>![i]</td>
</tr>
<tr>
<td>(d) ![b] [XY] [YP] ...</td>
<td></td>
<td>![i]</td>
</tr>
</tbody>
</table>

IV. DISTRIBUTION

Languages differ in terms of the set of constituents that may be deleted, and in terms of the
environments in which particular constituents can be deleted.

• MOVEMENT
  • ![alpha] (all languages; ECP?)
• ELLIPSIS
  • IPs (sliding, gapping, stripping) (all languages; specific environments)
  • VPs et al. (English, ...; ![lambda] ![ux] ...)
  • NPs (English, Japanese, certain Ds ...)

9

10
Hypothesis: “copy-delete” is part of Gen; the distribution of the E-feature is Ig-specific.

Conclusions
i. Deletion in ellipsis and deletion in movement are subject to different licensing conditions (which may stem from the copy/non-copy distinction).
ii. For any language, we need to be able to regulate the range of possible deletions (possibly in terms of the distribution of the E-feature).
iii. We do not appear to need more than one general (violable) delete constraint: delete = “minimize the FPrepresentation”.

5.2 *Hidden* subdeletion

A prediction: If the compared constituent is part of a larger constituent that is a possible target of ellipsis, then a candidate in which movement does not occur should be optimal:

(72) Dennis has more tattoos than Michael does.

<table>
<thead>
<tr>
<th>Tableau 5</th>
<th>DELETE</th>
<th>STAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>Dennis has more tattoos than [\text{CF}_\text{M} \text{tattoos}]. M. does [\text{have} \text{-} \text{tattoos}]</td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td>Dennis has more tattoos than [\text{CF}_\text{M} \text{tattoos}]. M. does [\text{have} \text{-} \text{tattoos}]</td>
<td></td>
</tr>
</tbody>
</table>

Two contexts provide evidence for “hidden” subdeletion.

5.2.1 Multipled comparatives

(73a) a. *Max persuaded more people to buy more cars than you persuaded to buy.*
    b. *Christmas doesn’t make as many children as happy as birthdays make.

Multiple CD is possible only if the compared constituents are contained in a larger deleted XP, an observation made by Ivorreski (1995) but as yet unexplained (see also Andrews 1985):

(74a) a. Max persuaded more people to buy more cars than you did.
    b. Christmas doesn’t make as many children as happy as birthdays do.

This follows if VP-deletion in (74) forces a hidden subdeletion analysis:

(75a) a. Max persuaded more people to buy more cars than you did \[\text{people} \text{buy} \text{-} \text{cars}\].
    b. Christmas doesn’t make as many children as happy as birthdays do \[\text{children} \text{make} \text{-} \text{happy}\].

5.2.2 Parasitic gaps revisited

VP-deletion and other types of ellipsis can bleed otherwise acceptable parasitic gaps (see Kennedy and Merchant 2000, fn. 5):

(76) a. Mo interviewed more suspects than Art interviewed without arresting e,
    b. *Mo interviewed more suspects than Art did without arresting e.

(77) a. I actually liked more of the films that came out this year than I expected to enjoy before seeing e.
    b. *I actually liked more of the films that came out this year than I expected to before seeing e.

This is not a property of VP-deletion in general:

(78) I don’t know which films, Hillary enjoyed after seeing e, but I know which book, she did after reading e.

If VP-deletion forces a hidden subdeletion analysis, then there is no overt movement of the compared constituent in (76b) and (77b), and the parasitic gaps are not licensed.

(79a) a. *Mo interviewed more suspects than Art did \[\text{interview} \text{-} \text{suspects}\] without arresting e.
    b. *I actually liked more of the films that came out this year than I expected to \[\text{like} \text{-} \text{films}\] before seeing e.

Conclusion: When the compared XP can be deleted without movement, it does not move.
   • This is a direct consequence of an OT analysis.
   • A non-OT analysis allows movement as an option, predicting that gaps should be OK.

5.3 Overt movement in subdeletion

What’s going on in “more N than N” comparatives?

(80) In the final two games of the ALCS, the Red Sox tallied more errors than runs.

There is semantic evidence that (80) should be derived from (81) (Keenan 1987):

(81) ...the Red Sox tallied more errors than \[\text{CF}_\text{CF} \text{runs} \text{.} \text{they} \text{tallied} \text{-} \text{e}].

“more N than N” comparatives look like CSD with overt movement of the compared XP, but we have already seen that overt movement in CSD is otherwise impossible:

(82) a. ... the Red Sox tallied more errors than they tallied runs.
    b. ... the Red Sox tallied more errors than runs they tallied.

Why is overt movement possible if IP is deleted?

In fact, overt movement is optimal if IP is deleted: when IP is targeted for ellipsis, failure to move the compared constituent would incur a violation of RECOVER.

<table>
<thead>
<tr>
<th>Tableau 6</th>
<th>RECOVER</th>
<th>DELETE</th>
<th>STAY</th>
</tr>
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<tbody>
<tr>
<td>a.</td>
<td>...more error than [\text{CF}_\text{CF} \text{they} \text{tallied} \text{-} \text{e}].\text{runs}]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td>...more error than [\text{CF}_\text{CF} \text{runs} \text{.} \text{they} \text{tallied} \text{-} \text{e}].\text{e}</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
6 Typological variation

(85) move-x >> stay (where move-x targets the compared constituent.)

• Overt movement in subdeletion

Castilian Spanish (Rivero 1981, Knowles 1984; data from Price 1990:43)

(86) a. Mi padre vende más libros que discos compra mi madre.
   b. Mi padre vende más libros que mi madre compra discos.
   'My father sells more books than my mother buys records.'

(87) a. La mesa es más larga que ancha es la puerta.
   b. ‘La mesa es más larga que la puerta es ancha.
   ‘The table is longer than the door is wide.’

(88) a. El crio gatea más cuidadosamente que descuidadamente anda su hermana.
   b. ‘El crio gatea más cuidadosamente eque su hermana and a descuidadamente.
   ‘The baby crawls more carefully than his sister walks carelessly.

Possible values for move-x: alien-focus (REFs; Norbert Cornet, p.c.), "g-scope/g-marking."

(89) delete >> stay >> q-scope

• A wh-in-situ language in which CD shows properties of overt movement.


   T-top J-nom [__/it /them /book]-acc read than book many read
   Tom read many books than John read [__/it /them /the books].

(91) [Tom-sa _ yonda to] iwarette iru to [miinaga omotte iru yorimo] Mary-wa
   J-nom _ read CJ is-said asp CJ /everyone-nom think asp than] M-top 
   takusan hon-o yonde ita
   many book-acc read asp
   'Mary has read more books than everyone thinks that it is said that John read.'

(92) [John-sa _ yonde ita toki /zisin-ga okita yorimo] Paul-sa harukani
   J-nom _ read asp when earthquake-nom happened than P-top far
   takusan hon-o yonde ita
   many book-acc read asp
   'Paul has read many books than an earthquake happened when John was reading.'

CD in Japanese needs a gap (90), it is unbounded (91), it is sensitive to islands (92) and crossover (93), and (in particular) it licenses gaps (94).

→ Can an OT approach provide insight on the broader typological variety observed in comparatives?

7 Derived head analyses

Ichner 1999 (see also Rivero 1981): CD is movement of the compared constituent into the head position of the comparative (cf. Schachter 1973, Vergnaud 1974, Kayne 1994, etc.).

(95) a. Michael has [more [{spores /scoring titles}]] than [cop Dennis has e]]
   b. Michael’s feet are [longer /as wide] er than [cop my feet are e]]

Ichner does not discuss CSD, but presumably it would involve base structures like (96) plus some kind of covert movement.

(96) a. Michael has [more [{spores /scoring titles}]] than [cop Dennis has tattoos]]
   b. Michael’s feet are [longer /as wide] er than [cop my feet are long]]

The end result would be the same kind of derivational distinction that I have argued for here, but it would not need to postulate constraint ranking/violation. There are at least three arguments against this approach, however.

I. MULTIPLIED-HEAD CD

Recall from the discussion above that VP-deletion licenses multiply-headed CD:

(97) a. Christmas doesn’t make as many children as happy as birthdays do. 
   b. Christmas doesn’t make as many children, as happy as birthdays do [make happy /as much]

This is completely unexpected in a derived head analysis, since such an analysis makes no derivational distinction between (93) and (94).

(98) ‘Christmas doesn’t make as many children as happy as birthdays make.'
II. PARASITIC GAPS

The fact that VP-deletion bleeds parasitic gaps raises a similar problem. In the derived head analysis, there is no structural or derivational difference between e.g. (99) and (100).

(99) a. I interviewed more suspects than Art did without arresting e.
   b. I interviewed more suspects; than Art did [interviewed] t; without arresting e.

(100) Mo followed more suspects; than Art interviewed t; without arresting e.

III. DISJOINT REFERENCE EFFECTS

Lehner 1999 presents examples like (101a) as evidence in favor of the derived head approach, claiming that they involve Condition C violations.

(101a) *Louise is prouder of Frank; than he is.
   b. Louise is [TAG] prouder of Frank]; than he is [TAG] proud of Frank].

The acceptability of (102) suggests that (101) involves a Condition B violation, however.

(102) Louise is prouder of Frank; than he; thinks she is.

A derived head analysis runs into problems here:

(103) *Louise is [TAG] prouder of Frank]; than he; thinks she is [TAG] proud of Frank].

These facts can be accommodated within the analysis I have proposed here if names and pronouns count as identical for the purposes of deletion of copies, but names/pronouns and reflexives do not (cf. Fieno and May 1994, Safir 1999):

(104) Louise is prouder of Frank; than [TAG] proud of him]; he; thinks she is [TAG] proud of him].

(105a) *Louise is prouder of Frank; than [TAG] proud of himself]; he; is [TAG] proud of himself].
   b. Louise is prouder of Frank; than [TAG] proud of him]; he; is [TAG] proud of him].

8 Conclusion

To the extent that this analysis of comparatives succeeds in accounting for the full range of facts where others have failed, and in uncovering and explaining new data (in particular, “hidden” subdeletion), we have a strong case for an OT approach.

The next step is to look beyond comparatives to other “null operator” constructions: relative clauses, parasitic gaps, etc.

(106) In all, the Bears got rid of 19 players, including third-down back Ronnie Harmon and linebacker Shont’e Peoples, meaning the Bears have the same number of guys with apostrophes in their names as they have sacks in the preseason. (CT, 8.25.98: 84, p1)

(107) The Bears have guys with apostrophes in their names as that they have sacks in the preseason.

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