When to reduce and when not to: crosslinguistic variation in phrasal comparatives

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1 Multiple Routes to A Single Meaning

(1) Comparison:

    a. Clausal Comparative:
John is taller than [Bill is].
- a degree head that combines with a clause
2-place *-er*: 2 arguments - the extent of John's tallness, the extent of Bill's tallness

    b. Phrasal Comparative:
John is taller than [Bill].
- a degree head that combines with an individual
3-place *-er*: 3 arguments - Bill, John, the property of tallness

(2) Do we need both kinds of degree heads within and across languages?

- the answer to this question depends in part on the availability of reduction operations within the *than*-complement in a given language. Given such operations, the *than* phrase in a phrasal comparative could be a reduced clause and a degree head that combines with an individual might not be necessary.

    a. English, German: reduction operations available, only 2-place *-er* is attested, see Lechner (2001), Lechner (2004).

    b. Hindi-Urdu: reduction operations unavailable, 3-place *-er* is attested.

- but reduction operations do not fully determine the availability of 3-place *-er*.

    c. Japanese: reduction operations are available, but 3-place *-er* is still attested i.e. phrases that could be treated as reduced clauses are not treated as such.

What constrains the availability of a particular degree head in a particular language?
What constrains/requires the application of particular reduction operations?

Parametrization in terms of the morphosyntactic properties of comparative markers like *than*.

## 1.1 2-place *-er* and Clausal Comparatives

(3) Clausal:

    a. John is taller than [Bill is].

    b. [Bill jitnaa lambaa hai] [John us-se   zyaadaa lambaa hai]
        Bill how tall   is John that-than more   tall   is

        'John is taller than Bill is.' (Hindi-Urdu)

In clausal comparatives, *-er* combines with a degree description. Given the syntax we assume below, this yields a 2-place predicate.

(4) P, Q are degree predicates (sets of degrees)

    a. -er(P)(Q) $\leftrightarrow \exists d[Q(d) \wedge \neg P(d)]$

    b. -er [λd Bill is d-tall] [λd John is d-tall]
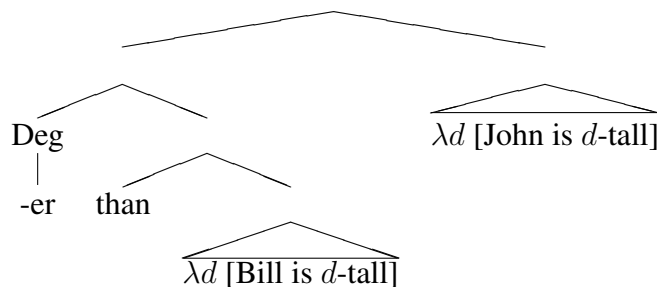
The 2-place *-er* is also useful for handling cases where the complement of *than* directly names a degree.

(5)   a. John is taller than six feet.

    b. Hindi-Urdu:

        Atif-ne   tiin-se   zyaadaa kitaabẽ khariid-ii thĩ:
        Atif-Erg three-than more   books.f buy-Pfv.f be.Pst.FPl

        'Atif bought more than three books.'

1.2 3-place *-er* and Phrasal Comparatives

On the surface, *-er* in phrasal comparatives does not combine with a degree description.

(6) Phrasal:

    a. John is taller **than Bill**.

    b. Hindi-Urdu:

        John **Bill-se**   zyaadaa lambaa hai
        John **Bill-than** more   tall   is

        'John is taller than Bill.'

This aspect of phrasal comparatives leads to two kinds of analyses.

(7) Option 1: Reduction Analyses

    a. There is only one *-er*, which takes two arguments.

    b. The complement of *than* involves silent clausal structure.
    John is taller [than [Bill ~~is tall~~]].
    More students ate apples [than ~~students ate~~ bananas]

Particular instantiations of the Reduction Analysis differ on exactly what reduction operation is relevant (Gapping, Conjunction Reduction: Lechner 2001, 2004; TP-ellipsis, Stripping: Merchant 2007) and what the size of the reduced object is (Pancheva 2006, 2007).
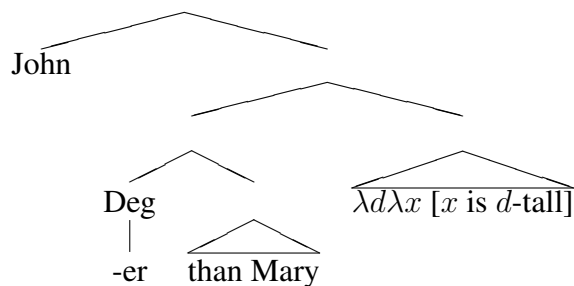
(8) Option 2: Direct Analysis

    a. There is also a 3-place *-er* that combines with two individual arguments and a predicate of individuals and degrees.

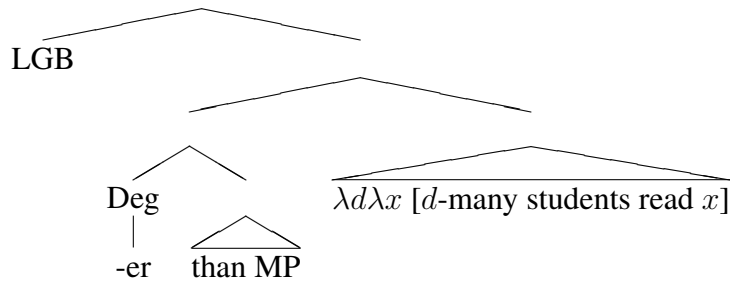   b. -er(x)(P)(y) $\leftrightarrow \exists d[P(y, d) \wedge \neg P(x, d)]$

    c. The predicate of individuals and degrees is created by movement of the associate and the degree operator.

(9)   a. John is taller than Mary.

$\exists d$ [tall(j,d) $\wedge \neg$ tall(m,d)]

b. More students read LGB than the MP.

$\exists d\ [\ \exists x\ [\text{students(x)} \wedge \text{card(x)} = \text{d} \wedge \text{read(x,LGB)}]$
$\wedge \neg \exists x\ [\text{students(x)} \wedge \text{card(x)} = \text{d} \wedge \text{read(x,MP)}]]$

2 Binding and the Direct Analysis in English

The Reduction Analysis and the Direct Analysis differ in the predictions they make about the binding properties of the remnant.

(10) a. Reduction Analysis: binding properties of the remnant depend upon the structural location of the remnant within the reduced clause.

b. Direct Analysis: Since there is no reduced clause on this analysis, the remnant patterns with PPs.

What c-commands the remnant? Building upon Lechner (2004)'s observations, we argue for the following generalization:

(11) The remnant is c-commanded by everything that c-commands the associate.

As shown in (12a) and (13a), if a pronoun c-commands the associate, it cannot co-refer to an R-expression inside a remnant.

(12) a. *More people introduced him$_i$ **to Sally** than to Peter$_i$'s sister.

b. More people introduced Peter$_i$ **to Sally** than to his$_i$ sister.

c. More people introduced him$_i$ **to Sally** than to himself$_i$.

(13) a. *More people gave him$_i$ **a picture of Sally** than a picture of Peter$_i$'s sister.

b. More people gave Peter$_i$ **a picture of Sally** than a picture of his$_i$ sister.

c. More people gave Peter$_i$ **a picture of Sally** than a picture of himself$_i$.

It is crucial to note that a direct/indirect object does not always c-command a remnant.

(14)   a. **Mary** gave him$_i$ more presents than John$_i$'s mother.

       b. **Mary** gave more presents to him$_i$ than John$_i$'s mother.
      (the associate in both cases is the subject.)

The generalization above does not follow from the Direct Analysis straightforwardly. Under the Direct Analysis a remnant is merged with a degree head outside of the c-command domain of the base-generated position of an associate and there is no movement dependency between the LF position of the remnant and the base-generated position of the associate. Thus, one would expect a situation in which a remnant is not c-commanded by an item that c-commands an associate.

(15)   [Sally [-er [than Peter$_i$'s sister] $\lambda d \lambda x$ [d-many people introduced him$_i$ x]]]

In contrast, the generalization is captured by the Reduction Analysis because under this view, exactly the same constituent as the matrix one is present in the ellipsis site in the *than* clause (modulo vehicle change effects). Hence, everything that c-commands an associate c-commands a remnant.

(16)   *More people introduced him$_i$ **to Sally**
          [than λd. ~~d-many people introduced him$_i$~~ to Peter$_i$'s sister]

We take the binding generalization to show that the Direct Analysis cannot be at work in English. If it was available, it would allow the unavailable coreference in (12/13a).

3   Hindi-Urdu: A case for the Direct Analysis

3.1   Basic Description

3.1.1 *than*-phrase precedes *more*

(17)   a. associate > remnant > more: ok

        Atif-ne **Boman-se**   **zyaadaa** kitaabẽ paṛh-ĩː
        Atif-Erg Boman-than more   books.f read-Pfv.FPl

        'Atif read more books than Boman.'

      b. associate > more > remnant: *

         *Atif-ne **zyaadaa** kitaabẽ Boman-se   paṛh-ĩː
        Atif-Erg more   books   Boman-than read-Pfv.FPl

        'Atif read more books than Boman.'

     As long as the remnant precedes *more*, no further restrictions are imposed on the relative order of the associate and the remnant: the remnant may precede the associate and there may be material between the associate and the remnant.

The *than*-phrase is an argument of *more* and arguments precede their heads in Hindi-Urdu. In its merge configuration, the *than*-phrase precedes the degree head. From here the *than*-phrase can undergo further scrambling to the left.

3.1.2 Conditions on Associates and Remnants

(18) the associate can be a PP or a DP and have any grammatical function but the remnant can only be a bare DP which is marked by *than*, which is realized by the postpositional *-se*.

    a. associate = nominative subject; (6)

    b. associate = ergative subject; (17)

    c. associate = dative IO:

        Atif-ne **Mina-ko** Tina-se zyaadaa tohfe diye
        Atif-Erg Mina-Dat Tina-than more presents.m give.Pfv.MPl

        'Atif gave more presents to Mina than to Tina.'

    d. associate = locative

        Amrika-me Rus-se zyaadaa log rah-te haiN
        America-in Russia-than more people stay-Hab.MSg be.Prs.Pl

        'More people live in America than in Russia.'

The absence of case-marking on the remnant can lead to ambiguity - (18c) for example can also be interpreted with the subject as an associate.

- in a Direct Analysis, the remnant is a complement of *than*. *-se*, the Hindi-Urdu *than*, is postpositional and can only combine with DPs.

(19) Phrasal Comparatives in Hindi-Urdu only allow for a single remnant. Multiple remnants are not possible.

    a. Tina read more books today than **Pim yesterday**.

    b. Hindi-Urdu:

        *Tina-ne aaj [**Pim kal-se**] zyaadaa kitaabẽ paṛh-ĩ:
        Tina-Erg today Pim yesterday-than more books.f read-Pfv.FPl

        intended: 'Tina read more books today than Pim yesterday.'

To convey this meaning, a clausal structure, which is realized by a correlative, must be used.

(20) Hindi-Urdu

    [**Pim-ne kal** jitnii kitaabẽ paṛh-ĩ:] [Tina-ne aaj us-se zyaadaa
    Pim-Erg yesterday how.many.f books.f read-Pfv.FPl Tina-Erg today that-than more
    kitaabẽ paṛh-ĩ:]
    books read-Pfv.FPl

    Literally: 'How many books Pim read yesterday, Tina read more books than that today.'

Lechner's Reduction Analysis offers a uniform treatment of comparatives with multiple remnants like (19a) and cases with a single remnant. But under such an analysis the Single Remnant Restriction found in Hindi-Urdu is unexpected.

The Direct Analysis, however, predicts a Single Remnant Restriction.

We could try generalizing the 3-place *-er* into a 5-place *-er* to handle (19b): 2 associates, 2 remnants, and one predicate. But the syntax does not actually give us the right number of arguments: the 2 remnants form a constituent (= *than* clause) and *-er* cannot look into this constituent and extract its arguments.

We take the absence of multiple remnants to show that a Direct Analysis is a viable option for phrasal comparatives in Hindi-Urdu and that a Reduction Analysis of the sort proposed by Lechner is not viable for the Hindi-Urdu data.

We speculate that a Reduction Analysis is ruled out for Hindi-Urdu because of a language particular interaction between the Hindi-Urdu *than*, *-se*, and finite clauses. The relevant reduction processes that could yield the Reduction Analysis, such as Sluicing and Gapping, seem to be restricted to finite clauses in this language. However, finite clauses can never appear as complements of *-se*, or for that matter any postpositional element in Hindi-Urdu.

(21) a. John has been happy [since [Mary arrived]].

  b. *John [Mary aa-ii   hai]-se   khush hai
      John   Mary come-Pfv.f be.Prs.Sg-from happy be.Prs.Sg

To achieve this meaning, a correlative construction must be used where the finite clause complement of the postposition appears as a correlative which is associated with a pronoun that is the complement of the postposition.

(22) [jab-se   Mary aa-ii   hai]   [tab-se   John khush hai].
      when-from Mary come-Pfv.f be.Prs.Sg then-from John happy be.Prs.Sg

      'John has been happy since Mary arrived.'

3.2   A Precedence Constraint

An important aspect of the Direct Analysis is that it assumes that there is a configuration in which *-er* combines with its two individual arguments and a predicate of individuals and degrees.

(23)   [Associate [Remnant -er [$\lambda d\lambda x$ Pred(x,d)]]]

    When the associate is the subject, it is already in the right place to combine with the *-er*.

(24)   John [[than Mary] -er [$\lambda d\lambda x$ [tall(x,d)]]]

But when the associate is not the subject, it must undergo movement to appear as an argument of *-er* and thereby create the compared predicate. In English, this movement is covert.

(25)   More people read LGB than the MP.
LGB [[than MP] -er [$\lambda d\lambda x$ [read(d-many people, x)]]]

Hindi-Urdu: covert scope shifting operations unavailable, overt scrambling is necessary (see Nevins & Anand 2003 for some qualifications).

(26)   a.   some > all, unavailable: all > some

kisi   laṛke-ne har   ṭiicar-se   aashirvaad liyaa
some boy-Erg every teacher-from blessing.m take.Pfv.MSg

‘Some boy took blessings from every teacher.’

   b.   all > some, also available: some > all

har   ṭiicar-se   kisi   laṛke-ne aashirvaad liyaa
every teacher-from some boy-Erg blessing.m take.Pfv.MSg

‘Some boy took blessings from every teacher.’

Given the unavailability of Covert Movement of DPs in Hindi-Urdu, we predict (28a), the Hindi-Urdu counterpart of (27), to be deviant.

(27)   More people read LGB than the MP.
LGB [[than MP] -er [$\lambda d\lambda x$ [read(d-many people, x)]]]

We also predict that if overt scrambling brings the associate to a position where it can combine with *-er*, the deviance should disappear. (28b) shows that this is, in fact, the case.

(28)   a.   remnant > more > associate

 *MP-se zyaadaa logõ-ne   LGB   paṛh-ii
MP-than more   people-Erg LGB.f read-Pfv.f

‘More people read LGB than MP.’ (intended, but unavailable)
(available reading: People read LGB to a greater extent than they read MP.)
LF: *[[-er than MP] [λd[d-many people read LGB]]]

   b.   associate > remnant > more

LGB   MP-se   zyaadaa logõ-ne   paṛh-ii
LGB.f MP-than more   people-Erg read-Pfv.f

‘More people read LGB than MP.’
LF: [LGB [[-er than MP] [$\lambda d\lambda x$[d-many people read x]]]]

The precedence requirement provides support for the Direct Analysis.

One implication of the precedence constraint is that associates need to overtly move to the position where *-er* takes scope: island effects.

(29) *[Arundhati-ne]$_i$ Vikram-se zyaadaa log [vo kitaab [jo t$_i$ likh-ii
    Arundhati-Erg Vikram-than more people that book Rel write-Pfv.f
hai]] paṛh-ẽ:ge
be.Prs.Sg read-Fut.3MPl

    Intended: 'More people will read the book that Arundhati wrote than (the book that) Vikram (wrote).'

3.3 Binding Effects

According to the Direct Analysis, the Remnant is a PP associated with the matrix clause and thus we expect it to pattern with other PPs with respect to binding properties. This turns out to be the case.

The binding properties of PPs in Hindi-Urdu are as follows:

(30) a. They pattern with arguments w.r.t. Principle B.

    b. Subjects can bind reflexives and reflexive possessors into them. Pronominal possessors cannot be coreferent with the subject.

    c. Co-arguments that precede the PP c-command it and the PP c-commands co-arguments that follow it.

The *than*-phrase in Hindi-Urdu has exactly the binding properties outlined above.

(31) a. anaphoric binding, pronominal obviation by subject:

    koi-bhii$_i$ apne aap-se$_i$/us-se$_{j/*i}$ lambaa nahĩ: ho sak-taa
    anyone self's self-than/him-than tall Neg be can-Hab.MSg

    'No one$_i$ can be taller than himself$_i$/him$_{j/*i}$.'

    b. anaphoric binding, pronominal obviation of possessors by subject:

    Atif$_i$ apnii$_i$/us-kii$_{j/*i}$ behen-se lambaa hai
    Atif self.f/he-Gen.f sister-than tall be.Prs.Sg

    'Atif$_i$ is taller than self$_i$'s sister/his$_{j/*i}$ sister.'

    c. pronominal obviation with respect to object:

    Atif-ne Sita-ko$_i$ us-se$_{j/*i}$ zyaadaa tohfe nahĩ: diye ho sak-te
    Atif-Erg Sita-Dat s/he-than more presents Neg give.Pfv.MPl be can-Hab.MPl

    'Atif can't have given Sita$_i$ more presents than her$_{j/*i}$.'

(32) a. ...[than Peter's$_i$ sister]....pron$_i$..... : coreference is ok

Sally-ne [Peter-kii$_i$ behen-se] us-ko$_{i/j}$ zyaadaa logõ-se   milvaa-yaa
Sally-Erg Peter-Gen.f sister-than he-Dat   more   people-with introduce-Pfv.MSg

'**Sally** introduced him$_i$ to more people than Peter's$_i$ sister.'

b. ....pron$_i$...[than Peter's$_i$ sister].... : coreference is not ok

Sally-ne us-ko$_i$ [Peter-kii$_{j/*i}$ behen-se] zyaadaa logõ-se   milvaa-yaa
Sally-Erg he-Dat Peter-Gen.f   sister-than more   people-with introduce-Pfv.MSg

'**Sally** introduced him$_i$ to more people than Peter's$_i$ sister.'

(33) a. ...[than Peter's$_i$ sister's photograph]....pron$_i$..... : coreference is ok

Sally-kii   foto [Peter-kii$_i$ behen-kii   foto-se]   zyaadaa logõ-ne
Sally-Gen.f photo Peter-Gen.f sister-Gen.f photo-than more   people-Erg
us-ko$_{i/j}$ dii
he-Dat   give.Pfv.f

'*More people gave him$_i$ **a picture of Sally** than a picture of Peter$_i$'s sister.'
(ungrammatical in English, good in Hindi-Urdu)

b. ....pron$_i$...[than Peter's$_i$ sister's photograph].... : coreference is not ok

us-ko$_i$ Sally-kii   foto [Peter-kii$_{j/*i}$ behen-kii   foto-se]   zyaadaa
he-Dat Sally-Gen.f photo Peter-Gen.f   sister-Gen.f photo-than more
logõ-ne   dii
people-Erg give.Pfv.f

'*More people gave him$_i$ **a picture of Sally** than a picture of Peter$_i$'s sister.'

Thus its binding behavior follows directly from its surface syntax. We do not need to postulate covert clausal structure to explain its binding properties.

In fact the 'pronoun c-commands the remnant if it c-commands the associate' generalization does not hold for Hindi-Urdu.

(34) [$_{Remnant}$....R-Exp$_i$....]$_j$ Pron$_i$ Associate [t$_j$ more].........

Atif-ne [Ravi-kii$_i$ behen-kii foto]-se$_j$ us-ko$_i$ [Mohan-kii behen-kii foto]   [t$_j$
Atif-Erg Ravi-Gen sister-Gen picture-than he-Dat Mohan-Gen sister   picture
zyaadaa baar] dikhaa-ii
more   times show-Pfv.f

'Atif showed Mohan's sister's picture to him more times than Ravi's sister's picture.'

10

4   Scope inside and outside *than*-phrases

Cases like the following seem to require scoping of a QP out of a *than*-phrase.

(35)   Mary, a first grader, is taller than every third grader in our school.

    a.   unavailable: *-er > every*
       -er [λd [every third grader is d-tall]] [λd Mary is d-tall]
       ($\approx$ Mary is taller than the shortest third grader. (assuming monotonicity))

    b.   available: *every > -er*
       [every third grader] λx [-er [λd [x is d-tall]] [λd Mary is d-tall]]
       ($\approx$ For every third grader x, Mary is taller than x.)

    (see Larson (1988), Schwarzschild and Wilkinson (2002), Heim (2006) for analyses)

But there are also cases where *than*-phrase internal QPs take scope within the *than*-phrase. It is not clear to us whether these QPs can (seem to) take scope out of the *than*-phrase.

(36)   More students read every syntax paper than every semantics paper.

    a.   *than*-phrase-internal scope:
       [-er [λd [d-many students read every semantics paper]]]
                 [λd [d-many people read every syntax paper]]
       the number of students who read every syntax paper exceeds the number of students who read every semantics paper.

    b.   *than*-phrase external scope: ???
       [every syntax paper] λx [every semantics paper] λy
                 [[-er [λd [d-many students read y]]] [λd [d-many people read x]]]
       the least read syntax paper was still read by more people than any semantics paper.

    (Carl Pollard, p.c.)

When can a QP take scope inside a *than*-phrase? When must it (seem to) scope out?

(37)   If a QP c-commands the site of degree abstraction, it must scope out. Otherwise it takes scope within the *than*-phrase.

    a.   degree abstraction c-commands QP: *than*-phrase internal scope ok
       Craigie assigned more students every paper by Hellan than every paper by Klein.

    b.   QP c-commands degree abstraction: QP must scope out
       Craigie assigned every first year student more papers than every second yr. student.

    $\rightarrow$ thus the subject/non-subject asymmetry is not what is behind the ability/need of a QP to scope out.

Somewhat strikingly, the Hindi-Urdu counterpart of (36) does not allow for the *than*-phrase-internal scope reading. The only interpretation available is the external scope reading.

(38) [har   syntax paper] [har   semantics paper]-se   zyaadaa logõ-ne   paṛh-aa
     every syntax paper every semantics paper-than more   people-Erg read-Pfv

     'More people read every syntax paper than every semantics paper.'
     than-phrase external scope: available; *than*-phrase-internal scope: unavailable

The Hindi-Urdu facts follow from a Direct Analysis. To get the *than*-phrase internal scope, a clausal comparative must be used.

(39) [jitne   logõ-ne   har   semantics paper paṛh-aa] [us-se   zyaadaa logõ-ne
     how.many people-Erg every semantics paper read-Pfv that-than more   people-Erg
     har   syntax paper paṛh-aa]
     every syntax paper read-Pfv

     'More people read every syntax paper than did every semantics paper.'

5   Handling Crosslinguistic Variation, Take 1

(40) English:

    a. The binding data and the scope data rule out the Direct Analysis.

    b. Hence only a Reduction Analysis is viable.

    → only 2-place *-er*, only Reduction Analysis

(41) Hindi-Urdu:

    a. The binding data is compatible with the Direct Analysis.

    b. The Single Remnant Restriction/Scope Facts argue against the Reduction Analysis.

    c. We still need 2-place *-er* to handle the *more than* n cases and correlatives.

    → both 2-place *-er* and 3-place *-er*, only Direct Analysis

(42) a. Why does Hindi-Urdu lack the Reduction Analysis?

       - because the relevant reduction operations apply to finite clauses in Hindi-Urdu and finite clauses cannot appear as complements of postpositions.

    b. Why does English lack a 3-place *-er*?

       Answer: start with 2-place *-er*, induce 3-place *-er* if there is evidence.

      i. English: Relevant reduction operations are available, no evidence that forces the learner to assume a 3-place *-er* (and a Direct Analysis to go with it).

     ii. Hindi-Urdu: Relevant reduction operations are unavailable in the complement of *-se*/'than', forcing learner to assume a 3-place *-er* (and a Direct Analysis).

6 The Facts from Japanese

6.1 A Basic Introduction

Japanese comparatives are introduced by *yori*.

(43) a. Taroo-wa [Hanako-yori] kasikoi.
      Taro-Top Hanako-than   smart

      'Taro is smarter than Hanako.'

   b. Taroo-wa [Hanako-yori] ooku-no   hon-o   yonda.
       Taro-Top Hanako-than   many-Gen book-Acc read

       'Taro read more books than Hanako.'

- note that there is no overt *-er*.

- like the Hindi-Urdu *-se* but unlike English *than*, *yori* also functions as the directional postposition 'from'.

(44) *yori* as a directional postposition:

   a. Watasi-wa Tokyo-yori mairimasita.
       I-Top   Tokyo-from came

       'I came from Tokyo.'

   b. Watasi-wa Taroo-yori tegami-o   moraimasita.
       I-Top   Taro-from letter-Acc received

       'I received a letter from Taro.'

- *yori* can also combine with clauses.

(45) a. Taroo-wa [Hanako-ga   yonda yori] ooku-no   hon-o   yonda.
       Taro-Top Hanako-Nom read   than many-Gen book-Acc read

       'Taro read more books than Hanako read.'

   b. Taroo-wa [Hanako-ga zassi-o   katta yori] ooku-no   syoosetu-o katta.
       Taro-Top Hanako-Nom magazine-Acc bought than many-Gen novel-Acc bought

       'Taro bought more novels than Hanako bought magazines.'

Unlike Hindi-Urdu, multiple remnants are possible.

(46) a. [[Taroo-ga Hanako-ni]-yori] Jiroo-ga Keiko-ni   hinpan-ni atta.
       Taro-Nom Hanako-Dat-than Jiro-Nom Keiko-Dat frequently met

       'Jiro met with Keiko more frequently than Taro with Hanako.'

   b. [[Taroo-ga Hanako-ni]-yori] Jiroo-ga Keiko-ni   takai   purezento-o ageta.
       Taro-Nom Hanako-Dat-than Jiro-Nom Keiko-Dat expensive present-Acc gave

       'Jiro gave a more expensive present to Keiko than Taro to Hanako.'

      → Japanese has reduction operations in the complement of *yori*.

What we expect to find: Japanese will pattern with English with respect to phrasal comparatives.

What we find: Japanese patterns with Hindi-Urdu.

6.2 Binding Evidence

Japanese phrasal comparatives pattern with Hindi-Urdu with respect to binding.

(47) a. anaphoric binding, pronominal obviation by subject:

Daremo_i [zibun_i-yori/$\text{kare}_{j/*i}$ yori] kasikoku-nai.
anyone   self-than/him   than smart-neg

'No one$_i$ is smarter than himself$_i$/him$_{j/*i}$.'

b. anaphoric binding, pronominal obviation of possessors by subject:

Taroo_i-wa [zibun_i/$\text{kare}_{j/*i}$-no imooto yori] kasikoi.
Taro-Top   self/he-Gen   sister   than] smart

'Taro$_i$ is smarter than self$_i$'s sister/his$_{j/*i}$ sister.'

c. pronominal obviation with respect to object:

Taroo-wa Hanako_i-ni [$\text{kanozyo}_{j/*i}$ yori] ooku-no   purezento-o age-nak-atta.
Taro-Top Hanako-Dat her   than many-Gen present-Acc give-Neg-Past

'Taro didn't given more present to Hanako$_i$ than her$_{j/*i}$.'

(48) a. ...[than Taro$_i$'s sister]....pron$_i$..... : coreference is ok

Hanako-wa [[Taroo-no imooto]-yori] $\text{kare}_{i/j}$-o ooku-no   hito-ni
Hanako-Top Taro-Gen   sister-than   he-Acc   many-Gen people-Dat
syookai-sita.
introduce-did

'**Hanako** introduced him$_i$ to more people than Taro$_i$'s sister.'

b. ....pron$_i$...[than Taro$_i$'s sister].... : coreference is not ok

Hanako-wa kare_i-o [[$\text{Taroo}_{j/*i}$-no imooto]-yori] ooku-no   hito-ni
Hanako-Top he-Acc Taro-Gen   sister-than   many-Gen people-Dat
syookai-sita.
introduce-did

'**Hanako** introduced him$_i$ to more people than Taro$_i$'s sister.'

(49) a. ...[than Taro$_i$'s sister]....pron$_i$..... : coreference is ok

[[Taroo-no imooto-no syasin]-yori] Hanako-no   syasin-o   ooku-no
Taro-Gen   sister-Gen photo-than   Hanako-Gen photo-Acc many-Gen
hito-ga $\text{kare}_{i/j}$-ni ageta.
people-Nom he-Dat   gave

'*More people gave him$_i$ **a picture of Hanako** than a picture of Taro$_i$'s sister.'
(ungrammatical in English, good in Japanese and Hindi-Urdu)

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b. ....pron$_i$...[than Taro$_i$'s sister].... : coreference is not ok

Kare$_i$-ni [[Taroo$_{j/*i}$-no imooto-no syasin]-yori] Hanako-no   syasin-o
he-Dat Taro-Gen   sister-Gen photo-than   Hanako-Gen photo-Acc
ooku-no   hito-ga   ageta.
many-Gen people-Nom gave

'*More people gave him$_i$ **a picture of Hanako** than a picture of Taro$_i$'s sister.'

The binding possibilities of the *than* phrase are sensitive to its surface position and are not influenced by the location of the associate within the matrix clauses.

Like in Hindi-Urdu, the 'pronoun c-commands the remnant if it c-commands the associate' generalization does not hold.

(50)   [$_{Remnant}$....R-Exp$_i$....]$_j$ Pron$_i$ Associate [t$_j$ more].........

Hanako-ga   [Taroo-no$_i$ imooto-no syasin]-yori$_j$ kare-ni$_i$ [Keiko-no imooto-no
Hanako-Nom Taro-Gen   sister-Gen picture-than he-Dat   Keito-Gen sister-Gen
syasin]-o   [t$_j$ hinpan-ni] miseta.
picture-Acc   frequently showed

'Hanako showed Keiko's sister's picture to him more frequently than Taro's sister's picture.'

→ binding data does not provide support to the Reduction Analysis.

6.3   Scope Evidence

(51)   a. Japanese phrasal comparatives:
                    pattern with Hindi-Urdu
                    than-phrase internal QPs always scope out

       b. Japanese clausal comparatives:
                    pattern with English
                    scopal behavior depends upon structural configuration

(52)   Japanese Clausal Comparatives: scope depends upon QP/DegP configuration

       a. the QP does not c-command the degree variable: QP does not scope out
          [Dono imiron-no   ronbun-o yonda yori-mo] ooku-no   hito-ga   dono
          every semantics-Gen paper-Acc read   than-mo many-Gen people-Nom every
          toogoron-no ronbun-mo yonda.
          syntax-Gen paper-mo   read

          'More people read every syntax paper than read every semantics paper.'
          (-er>every) (*every>-er)

b. the QP c-commands the degree variable: QP scopes out

[Dono keizaigakusya-ga yonda yori-mo] dono gengogakusya-mo ooku-no
every economist-Nom read than-mo every linguist-mo many-Gen
ronbun-o yonda.
paper-Acc read

'Every linguist read more papers than every economist read.'
(*-er>every) (every>-er)

(53) Japanese Phrasal Comparatives: QP always scopes out

a. Dono toogoron-no ronbun-mo [dono imiron-no ronbun-yori-mo] ooku-no
every syntax-Gen paper-mo every semantics-Gen paper-than-mo many-Gen
hito-ga yonda.
people-Nom read

'More people read every syntax paper than every semantics paper.'
(*-er>every) (every>-er)

b. Dono dansi gakusei-mo [dono zyosi gakusei-yori-mo] ooku-no ronbun-o
every male student-mo every female student-than-mo many-Gen paper-Acc
yonda.
read

'Every male student read more papers than every female student.'
(*-er>every) (every>-er)

A way of interpreting the above facts:

(54) 'What you see is what you get':
Than-phrase-internal scope requires clausal structure and

a. when there is no overt evidence for a clause, there is no clause.

b. when there is overt evidence (a verb, multiple remnants), there is a clause.

6.4   Interpreting the Japanese Facts

• Japanese uses the 2-place degree head:
                - with clausal complements

• Japanese has reduction operations that can apply in the clausal complement of *yori* giving rise to multiple remnant.

• And yet, DP complements of *yori* do not seem to involve a clausal source. Instead they use the 3-place degree head.

Why?

7 Handling Crosslinguistic Variation, Take 2

(55) Some Possibilities:

    a. Maybe Japanese has no degree abstraction in the complement of *yori* (Kennedy 2007, see also Beck et al. 2004).

        i. If Japanese has no degree abstraction in the complement of *yori*, a 2-place degree head that takes a degree predicate complement becomes impossible. Only the Direct Analysis is possible and the behavior of DP complements follows.

        ii. But then the analysis of clausal complements is complicated, see §9 for arguments that there cannot be a blanket ban on degree abstraction in Japanese.

    b. Maybe the relevant reduction operations are blocked when there is just one remnant.

        i. This would force *yori* to take a DP complement in the relevant cases and hence the 3-place lexical entry for the degree head would need to be induced.

        ii. Problem: what constraint would block the relevant reduction operations in this particular environment? Right Node Raising in Japanese seems to be permitted in a one remnant configuration.

    c. Maybe there is a preference for Minimal Structure, parametrized by the properties of the Comparative Marker.

7.1 Properties of the Comparative Marker

(56) A speculative proposal

    a. Both 2-place and 3-place entries are available crosslinguistically.

    b. However, the syntactic environments where these entries may be used can be restricted crosslinguistically by the subcategorizational properties of *than/yori/-se*.

(57) The easy case: Hindi-Urdu
-se can only combine with DPs. If the DP is individual denoting, we use the 3-place entry and if the DP is degree denoting, we use the 2-place entry.

Why do English and Japanese phrasal comparatives differ from each other?

(58) Different properties of *yori* and *than*:

    a. *than*:

        i. *than* takes a variety of complements, clausal and non-clausal.

        ii. Since the non-clausal complements can be analyzed as reduced clauses, it is possible to retain a single clausal subcategorization for *than*. A principle of 'lexical uniformity' might be behind a single subcatgegorization.

        → *than* only subcategorizes for CPs.

b. *yori*:

    i. *yori* has a (non-comparative) postpositional usage as 'from'; this usage requires a DP subcategorization.

    ii. *yori* also combines with clauses.

    iii. A single subcategorization is not possible for *yori*.

    → *yori* subcategorizes for DPs and CPs.

(59) Japanese:

a. The complement of *yori* may contain a verb or multiple remnants. In such a case, the complement can only be analyzed as a CP. In such cases, *yori* takes a CP complement and the 2-place degree head is used.

b. If the complement of *yori* on the surface is a DP, there are in principle two options: *yori* takes a DP complement or else it takes a reduced clause whose only remnant is the DP.

c. Here an economy constraint that prefers Minimal Structure kicks in (see Bošković (1996), Grimshaw (1993), Law (1991), Radford (1994), Speas (1994) for articulations of this constraint). This constraint prefers a DP complement to a CP complement.

d. The constraint can be implemented as a parsing constraint and does not require a transderivational statement.

e. Consequently when *yori* gets a DP complement on the surface, *yori* actually has a DP complement underlyingly too and therefore only the 3-place degree head may be used (the 'what you see is what you get' property).

(60) English:

a. *than* only subcategorizes for CPs.

b. Even when the overt complement of *than* is a DP, a CP is always postulated.

c. Since *than* only combines with clauses, reduced or unreduced, the 3-place degree head may not be used.

d. If phrasal comparatives dominate the early input to the child, we would expect that initially the grammar would allow for *than* to combine with a DP and the 3-place degree head will be used. Sustained exposure to clausal complements will lead to reanalysis of the subcategorization of *than*.

• No parametrization of lexical entries.

• Crosslinguistic variation in properties of comparative markers (*than*, *yori*,...)

7.2 Implications

7.2.1 Sluicing in Japanese

The minimal structure constraint we invoked to keep *yori* from treating DPs like CPs might seem to be too strong. It could, in principle, block any instance of an overt DP being analyzed as the remnant of a reduced clause. One such well attested case is that of sluicing and as we see below, sluicing is possible in Japanese.

(61)   a.   Dareka-ga   kita   ga, watasi-wa [dare **ka**] wakara-nai.
             someone-Nom came but I-Top   who Q   know-Neg

             'Someone came, but I don't know who.'

       b.   Taroo-ga dareka-ni   atta ga, watasi-wa [dare-ni **ka**] wakara-nai.
             Taro-Nom someone-Dat met but I-Top   who-Dat Q   know-Neg

             'Taro met with someone, but I don't know who.'

But there is an important difference between sluicing and the comparative cases due to which sluicing does not fall under the purview of the 'DPs over CPs' minimal structure principle. Note that the 'DP complements' of *wakara* 'know' end with a Q particle. This is enough to indicate that we have a CP. And *wakara* can certainly combine with a CP.

If the Q particle were missing, the DP would not be analyzed as a CP. Instead it would be treated as an ordinary DP argument of *wakara* 'know' (modulo its special *wh*/existenial semantics). So the facts from sluicing are completely compatible with our minimal structure principle.

7.2.2 'Other' Problems

We have argued that the comparative *yori* can subcategorize for DPs by virtue of the directional postposition *yori* subcategorizing for DPs. But there is at least one case in English where it is hard to postulate a clausal analysis for the DP complement of *than*:

(62)   a.   Crimes other than murder are widespread in Bessarabia.

       b.   I met with a student other than Jon.

We do not have a full explanation for why the apparent DP taking properties of the *than* in *other than* do not permit *than* in general to have a DP subcategorization in contrast to Japanese. But we have two speculations. The first is that comparative *yori*-phrases in Japanese precede the abstract Degree head. As a result, when *yori* is encountered, it is locally ambiguous between a locative and a comparative usage. In English, *than* follows its licensor, be it *more* or *other*. Consequently it is not locally ambiguous.

Further based on the properties of the corresponding construction in German involving *anders* 'other', we speculate that even here *than/als* does not directly combine with its complement DP.

(63) German (Beatrice Santorini p.c.)

    a. complement of *als* is nominative:

      Jemand   anderer   als   ich   kann diese Arbeit übernehmen.
      someone.nom other.masc.nom than I.nom can   this work take-over

      'Someone else than I/me can take over this work.'

    b. complement of *als* is accusative:

      Er möchte   jemanden   anderen   als mich   kennenlernen.
      he would-like someone.masc.acc other.masc.acc than me.acc know-learn

      'He would like to meet someone other than me.'

    c. complement of *als* is dative:

      Er hat das Buch jemandem   anderen   als mir   gegeben.
      he has the book someone.masc.dat other.masc.dat than me.dat given

      'He gave someone else than me the book.'

Note that the case of the putative complement of *als* is determined by the external environment and not by *als*. Locality considerations would require that *als* not intervene between its complement and the case-assigner.

The motivation for our proposal that *than* only takes a CP complement underlying can also be questioned. *than* certainly has a non-prepositional origin; it is related to the Old English *than(ne), thon(ne), thaen(ne)* and in the Middle English period is spelled as *then*. But certainly now and in fact, even going back to the Middle English period, the complement of *than* did not have to match its associate in case.

(64) John is taller than me$_{normal}$/I$_{formal/uncommon/marked}$.

(65) Middle English (Beatrice Santorini p.c.)

    a. Case(Associate) = Case(Remnant) = Nominative

      i. for **they** are stronger **then we**. (AUTHOLD-E2-H,XIII,20N.911)

      ii. but heare you my maisters, though mistresse Winchcomb goe in her hood, **I** am as good as **shee**, (DELONEY-E2-H,79.330)

    b. Case(Associate) = Nominative $\neq$ Case(Remnant) = Oblique

      i. my care & tender love to yu is Great hoping God will make y=u= a comfort to me in my old age & y=t= **y=u=** will be better advised **then them** y=t= have bin a griefe of heart to me & a ruin to themselves & would consume y=t= before o=r= faces w=ch= their friendes have bin carefull to get for them. (JOPINNEY-E3-P2,48.9)

      ii. Lory. Here comes a Head, Sir, **[who/that - BES]** would contrive it better **than us** both, if he wou'd but joyn in the Confederacy. (VANBR-E3-P2,29.195)

In Middle English (and in Modern German), the case matching between the remnant and the associate can be taken to provide evidence for a reduced clause. By the time we come to Modern English, this kind of evidence is essentially gone.

But if we are right, the grammar continues to analyze *than* as taking CP complements. Pending a deeper explanation, we have to conclude that the economy considerations that favor a single subcategorization for *than* are not sensitive/dependent on surface evidence of this sort. They must be innate.

7.2.3 Impossible Combinations

We have seen the following combinations:

(66)   In phrasal comparatives
     a. *than* only takes CPs: English, German
     b. *than* only takes DPs: Hindi-Urdu, Japanese

Our analysis predicts that a language with the following properties should not exist:

(67)   A language L, where in a phrasal comparative, *than* can take both a DP and a CP.

     (Hankamer (1973) argues that there are two *than*'s in English; if these two *than*'s are freely available in phrasal comparatives, then according to him, English would be such a language.)

Such a language would have the following properties:

(68)   a. Scopal ambiguity in the 'more students read every syntax paper than every semantics paper' cases.
     b. A union of the positive binding judgements reported for Hindi-Urdu/Japanese and English/German.

8   Appendix A: Scope and Scrambling

An associate must be overtly scrambled to a position before a gradable predicate in phrasal comparatives in Hindi-Urdu and Japanese but not in English. Could this be responsible for the obligatory wide scope of a *than*-internal QP in phrasal comparatives in Hindi-Urdu and Japanese?

Let us start by looking at clausal comparatives in Japanese where the associate does not have to move overtly to a position preceding the degree head.

(69)　[Dono imiron-no　　ronbun-o　yonda yori-mo] ooku-no　　hito-ga　　　　dono
　　　every　semantics-Gen paper-Acc read　than-mo　many-Gen people-Nom every
　　　toogoron-no ronbun-mo yonda.
　　　syntax-Gen　paper-mo　read

　　　'More people read every syntax paper than read every semantics paper.'
　　　(The number of people who read every syntax paper exceeds the number of people who
　　　read every semantics paper.)
　　　(-er>every) (*every>-er)

Scrambling of *every syntax paper* to a position preceding the gradable adjective does not change
the scope of *every semantics paper* with respect to *-er*:

(70)　[Dono toogoron-no ronbun-mo] [dono imiron-no　　　ronbun-o　yonda yori-mo]
　　　every　syntax-Gen　paper-mo　every　semantics-Gen paper-Acc read　than-mo
　　　ooku-no　　hito-ga　　　yonda.
　　　many-Gen people-Nom read

　　　'More people read every syntax paper than read every semantics paper.'
　　　(The number of people who read every syntax paper exceeds the number of people who
　　　read every semantics paper.)
　　　(New Reading: For every syntax paper x, the number of people who read x exceeds the
　　　number of people who read every semantics paper.)
　　　(-er>every) (*every>-er)

Scrambling of the associate has predictable scopal effects but crucially these scopal effects are
confined to the matrix clause. The quantifier inside the *than*-clause can still only take scope
under *-er* and within the *than*-clause.

It is only with phrasal comparatives that we find obligatory fronting of the associate.

(71)　Dono toogoron-no ronbun-mo [dono imiron-no　　　ronbun-yori-mo] ooku-no
　　　every syntax-Gen　paper-mo　every semantics-Gen paper-than-mo　　many-Gen
　　　hito-ga　　　yonda.
　　　people-Nom read

　　　'More people read every syntax paper than every semantics paper.'
　　　(*-er>every) (every>-er)

This in itself suggests that we don't have a hidden clause. If there was, we might have expected
phrasal and clausal comparatives to behave alike with respect to fronting of the associate. Fur-
thermore if scrambling of the associate was responsible for the 'every>-er' reading, we would
expect (70) to have this reading. Also if phrasal comparatives like the one in (71) had a covert
clausal structure, we would expect it to allow for the '-er>every' scopal relation on a parallel
with (70).

So while (71) involves scrambling of the associate, scrambling does not by itself yield the
'every>-er' scopal relation and the difference between English and Japanese does not reduce
to the fact that Japanese associates have to be obligatorily scrambled to a position before a
gradable adjective.

9   Appendix B: Degree Quantification in Japanese

A putative argument against degree abstraction in the complement of *yori*:

Japanese does not have adjectival subcomparatives, unlike English.

(72)   *Kono tana-wa   [ano doa-ga   hiroi yori (mo)] (motto) takai.
         this   shelf-Top that door-Nom wide than mo   more   tall
         'This shelf is taller than that door is wide.'

<div align="right">(Beck et al. 2004:290 and Snyder et al. 1995)</div>

If a language does not permit degree abstraction in a comparative clause, the absence of sub-comparatives would follow.

However, much else is complicated:

9.1   Clausal Comparative as Relative Clauses

All simple clausal comparatives have to be analyzed as relative clauses.

(73)   a. full externally headed relative clause: [[[....relative clause] head-NP] than]

Taroo-wa [[[Hanako-ga katta]   hon]-yori] takai   hon-o   katta.
Taro-Top Hanako-Nom bought book-than expensive book-Acc bought

'Taro bought a more expensive book than the book that Hanako bought.'

b. relative clause headed by *no* 'one': [[[....relative clause] one] than]

Taroo-wa [[[Hanako-ga katta]   no]-yori] takai   hon-o   katta.
Taro-Top Hanako-Nom bought one-than expensive book-Acc bought

'Taro bought a more expensive book than the one that Hanako bought.'

c. ???: [[clause-with-gap] than]

Taroo-wa [[Hanako-ga katta] yori] takai   hon-o   katta.
Taro-Top Hanako-Nom bought than expensive book-Acc bought

'Taro bought a more expensive book than Hanako bought.'

- if *yori* only takes DP complements, then the complement of *yori* in (73c) must be analyzed as a DP, presumably one with a silent head. This is problematic because such a constituent cannot function as a DP elsewhere - see (74c).

(74)   Clauses with gaps need external heads to function as DPs:

a. Watasi-wa [[Taroo-ga katta]   hon-ga]   hosii.
    I-Top   Taro-Nom bought book-Nom want

'I want the book that Taro bought.'

b. Watasi-wa [[Taroo-ga katta]-no-ga]   hosii.
    I-Top   Taro-Nom bought-one-Nom want

'I want the one Taro bought.'

c. *Watasi-wa [[Taroo-ga katta]-ga]   hosii.
   I-Top   Taro-Nom bought-Nom want

   'I want the one Taro bought.'

Beck et al. (2004) recognize this stipulative aspect of their proposal which allows headless relative clauses to behave like DPs and receive a maximalizing interpretation, noting that it must be limited to complements of *yori*. But this is insufficient given the ungrammaticality of cases like (75) (Junko Shimoyama p.c.).

(75)   Kono hon-wa   [[Hanako-ga katta-*(no)] yori] takai.
        this   book-Top Hanako-Nom bought   -one than   expensive

        '*This book is more expensive than Hanako bought.'

If the *yori*-clause in (75) is treated as involving degree abstraction, the ungrammaticality of (75) can be given the same explanation as its English counterpart, which is indicated below it. However, if following Beck et al. (2004) we allow the *yori*-clause (without *no*) to be treated as a DP with the interpretation of 'what/the ones Hanako bought', then it is mysterious why an interpretation along the lines of 'The book is more expensive that what/the ones Hanako bought' is not available for (75).

9.2   Amount Subcomparatives

Amount subcomparatives are grammatical but their grammaticality has to be stipulated.

(76)   'internal head', no overt gap in *yori* complement:

    a. no external head, . . . [[Hanako book bought] than] . . .

       Taroo-wa [[Hanako-ga hon-o   katta] yori] ooku-no   zassi-o   katta.
       Taro-Top Hanako-Nom book-Acc bought than many-Gen magazine-Acc bought

       'Taro bought more magazines than Hanako bought books.'

    b. *no* 'one' functions as external head:

       ??Taroo-wa [[[Hanako-ga hon-o   katta]-no] yori] ooku-no   zassi-o
       Taro-Top   Hanako-Nom book-Acc bought-one than many-Gen magazine-Acc
       katta.
       bought

       'Taro bought more magazines than Hanako bought books.'

- as with simple clausal comparatives, if *yori* only takes DP complements, then its complement in (76a) must be analyzed as a DP, presumably as an internally headed relative clause. But internally headed relative clauses need the external nominalizer *no* to function as DPs.

(77)   a. external head (= *no* 'one'): ok

       Taroo-wa [[Hanako-ga hon-o   katta]-no-o]   yonda.
       Taro-Top Hanako-Nom book-Acc bought-one-Acc read

       'Taro read the book that Hanako bought.'

b. no external head: *

   *Taroo-wa [[Hanako-ga hon-o   katta]-o]   yonda.
   Taro-Top   Hanako-Nom book-Acc bought-Acc read

'Taro read the book that Hanako bought.'

9.3 Multiple Remnants

If we only have a degree head that combines with individuals and a single predicate of degrees, the structures in (78) cannot be interpreted for the reasons discussed in §3.1.2.

(78)   a. [[Taroo-ga Hanako-ni]-yori] Jiroo-ga Keiko-ni   hinpan-ni atta.
         Taro-Nom Hanako-Dat-than Jiro-Nom Keiko-Dat frequently met

      'Jiro met with Keiko more frequently than Taro with Hanako.'

     b. [[Taroo-ga Hanako-ni]-yori] Jiroo-ga Keiko-ni   takai   purezento-o ageta.
         Taro-Nom Hanako-Dat-than Jiro-Nom Keiko-Dat expensive present-Acc gave

      'Jiro gave a more expensive present to Keiko than Taro to Hanako.'

9.4 Parallels with English Attributive subcomparatives

The asymmetry between adjectival subcomparatives and amount subcomparatives that we find in Japanese surfaces in English in the attributive domain.

(79)   amount subcomparatives are ok:

     a. Michael Jordan has more scoring titles than Dennis Rodman has tattoos.

                                  (Kennedy and Merchant 2000:91)

     b. Hanako-wa [Taroo-ga dansei-ni atta yori] ooku-no   zyosei-ni   atta.
         Hanako-Top Taro-Nom man-Dat met than many-Gen woman-Dat met

      'Hanako met more women than Taro met men.'

(80)   but attributive subcomparatives are not

     a. *Pico wrote a more interesting novel than Brio wrote a play.

     b. *Anna read a longer article than Roxani read a book.

                        (Kennedy and Merchant 2000:92, 107)

     c. *Taroo-wa Hanako-ga   syoosetu-o kaita yori omosiroi ronbun-o kaita.
         Taro-Top   Hanako-Nom novel-Acc wrote than interesting paper-Acc wrote

      'Taro wrote a more interesting paper than Hanako wrote a novel.'

The ungrammaticality of the attributive subcomparatives has been analyzed as a Left Branch Condition Violation and it has been noted that certain ellipsis operations can amnesty these violations. (see Kennedy and Merchant (2002:94)). This pattern extends to Japanese.

(81) a. Left Branch Condition violation:
      *Pico wrote a more interesting novel than Brio wrote a paper.

      b. DP is missing (comparative deletion):
      Pico wrote a more interesting novel than Brio wrote.

      c. CP is missing:
      Pico wrote a more interesting novel than Brio expected.

(82) a. Left Branch Condition violation:
      *Taroo-wa Hanako-ga   ronbun-o kaita yori omosiroi   syoosetu-o kaita.
      Taro-Top   Hanako-Nom paper-Acc wrote than interesting novel-Acc wrote

      'Taro wrote a more interesting novel than Hanako wrote a paper.'

      b. DP is missing (comparative deletion):

      Taroo-wa Hanako-ga   kaita yori omosiroi   syosetu-o kaita.
      Taro-Top Hanako-Nom wrote than interesting novel-Acc wrote

      'Taro wrote a more interesting novel than Hanako wrote.'

      c. CP is missing:

      Taroo-wa Hanako-ga   yosoo-siteita yori omosiroi   syoosetu-o kaita.
      Taro-Top Hanako-Nom expected   than interesting novel-Acc wrote

      'Taro wrote a more interesting novel than Hanako expected.'

An alternative explanation that does not parametrize the availability of degree abstraction:

(83)   Japanese degree abstractions obligatorily involve AP deletion in the *yori*-clause.

A consequence: no degree subcomparatives in Japanese - AP-deletion would not be possible in these cases. In English, AP-deletion is obligatory **when possible**. In Japanese, it simply obligatory.

10   Appendix C: Rethinking Case Matching Effects

German phrasal comparatives display case-matching between the remnant and the associate.

(84)   (German)

       a. John is taller than I.Nom/*me.Acc
       b. John likes Mary more than me.Acc/*I.Nom [with the object associate]
       c. John gave Mary.Dat more presents than me.Dat/*I.Nom [with Mary as associate]

It seems plausible to see these matching effects as providing evidence for a reduced clause. But we also find similar matching effects with *anders als*, where it is not plausible to assume a reduced clause. See §7.2.2. This means that case matching effects alone does not provide a strong argument for the existence of a clause.

It seems clear that *als* does not assign case. So the DP that follows *als* needs to get case in some other fashion.

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(85)   Two options:

a. Case from above: used with *anders als*
    K^0 .... [DP$_1$-K [anders [als DP$_2$-K]]]
    (the exact mechanics need to be clarified.)

    → cannot be used in phrasal comparatives because the *als* phrase is not DP-internal, does not form a constituent with the associate.

b. Case from below: used with phrasal comparatives
    .....[als [$_{CP}$ DP-K [............K^0..........]]]
    (source of case is in elided clause)

    → cannot be used in *anders als* because a hidden CP cannot be postulated.

More generally, if the comparative marker is not a case assigner then a direct analysis is not possible. To license case on the complement of the comparative marker, we would need a source for case - only the 'case from below' option would be possible, forcing a reduction analysis.

→ Absence of direct analysis in German would follow directly from the fact that *als* is not a case-assigner.

→ But the ability of English *than* to optionally assign accusative case does not entail a direct analysis.

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