

Many or more: the Hindi-Urdu degree word *zyaadaa* and the analysis of Bare Comparatives

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1 An asymmetry in the distribution of Bare Comparatives

This paper is concerned with the analysis of Bare Comparatives. By Bare Comparatives¹, I refer to comparatives that lack overt comparative morphology. Hindi-Urdu permits certain adjectival comparatives to be bare comparatives. However, NP comparatives cannot be bare. They always require *zyaadaa*, which has been analyzed in earlier work (Bhatt and Takahashi (2011)) as being the comparative degree head. My attempt to explain the availability of bare comparatives in Hindi-Urdu will lead me to a reconsideration of this assumption. I will argue that *zyaadaa* does not by itself encode comparative meaning; it merely makes available a degree variable. I will show that this conception of *zyaadaa* allows for us to handle a number of environments where *zyaadaa* does not contribute a comparative meaning. The actual meaning of comparison I will take to be introduced by a covert comparative operator. Like the covert negation assumed in treatment of negative concord, this covert comparative operator needs to be licensed. It can be licensed by *zyaadaa* or by the standard marker (the *-se* ‘than’ phrase).

1.1 Bare Adjectival Comparatives

Most adjectives do not need *zyaadaa* to form a comparative.²

- (1) a. Mina Atif-se (*zyaadaa*) lambii hai.
Mina.F Atif-Instr more tall.F be.Prs.Sg
‘Mina is taller than Atif.’
b. Mina Atif-se (*zyaadaa*) bahaadur hai.
Mina.F Atif-Instr more brave be.Prs.Sg
‘Mina is braver than Atif.’

I will refer to the comparatives without *zyaadaa* as bare comparatives. Determining the status of *zyaadaa* is one of the goals of this paper; hence I will refer to it neutrally as a degree word. The instrumental case *-se* marks the standard of comparison.

Some AP comparatives seem to require/strongly prefer *zyaadaa*. These adjectives take instrumental internal arguments - note that the *than*-phrase also bears instrumental case.

- (2) a. Mina Atif-se gussaa hai.
Mina.F Atif-Instr angry be.Prs.Sg
‘Mina is angry at Atif.’/‘#Mina is angrier than Atif.’/‘#Mina is angrier at Atif.’

¹I owe this term and much of what follows to Schwarzschild (2011) and subsequent discussions with the author of Schwarzschild (2011). The proposal for Hindi-Urdu outlined here provides a licensing based solution for a puzzle posed in Schwarzschild (2011) for similar Hebrew data.

²In the more Sanskritized registers of Hindi-Urdu, speakers will often use *adhik* instead of *zyaadaa*. However, I am not certain that *adhik* can replace *zyaadaa* in all environments.

- b. Mina Atif-se zyaadaa gussaa hai.
 Mina.F Atif-Instr more angry be.Prs.Sg
 ‘#Mina is angry at Atif.’/‘Mina is angrier than Atif.’/‘Mina is angrier at Atif.’

Putting the two instrumental phrases together does not help much. *zyaadaa* is still needed.

- (3) a. */??? Mina tum-se Atif-se gussaa hai.
 Mina.F Atif-Instr angry be.Prs.Sg
 intended: ‘Mina is angrier at Atif than you are.’/‘Mina is angrier at Atif than at you.’/‘Mina is angrier at you than Atif is.’/‘Mina is angrier at you than at Atif.’
- b. acceptable but very ambiguous:
 (?)Mina tum-se Atif-se zyaadaa gussaa hai.
 Mina.F Atif-Instr more angry be.Prs.Sg
 ‘Mina is angrier at you than Atif is.’/‘Mina is angrier at Atif than you are.’/‘Mina is angrier at Atif than at you.’/‘Mina is angrier at you than at Atif.’
- c. slightly less ambiguous:
 Mina tum-se zyaadaa Atif-se gussaa hai.
 Mina you-Instr more Atif-than angry be.Prs.Sg
 ‘Mina is angrier at Atif than at you.’/‘Mina is angrier at Atif than you are.’
- d. unambiguous:
 Atif-se Mina tum-se zyaadaa gussaa hai.
 Atif-Instr Mina you-Instr more angry be.Prs.Sg
 ‘Mina is angrier at Atif than you are.’
- e. unambiguous:
 tum-se zyaadaa Mina Atif-se gussaa hai.
 you-Instr more Mina Atif-Instr more angry be.Prs.Sg
 ‘Mina is angrier at Atif than at you.’

There are also adjectives that take adjuncts that are marked with instrumental case. For example, the adjective *dayaalu* ‘kind’ can optionally take an instrumental modifier *svabhaav-se* ‘nature-Instr’.

- (4) vo svabhaav-se dayaalu hai.
 he/she nature-Instr kind be.Prs.Sg
 ‘S/he is kind by nature (i.e. intrinsically kind).’

Such adjectives prefer a *zyaadaa* in comparatives but do not require it.

- (5) a. ?vo mujh-se dayaalu hai.
 he/she me.Obl-Instr kind be.Prs.Sg
 ‘S/he is kinder than me.’
- b. vo mujh-se zyaadaa dayaalu hai.
 he/she me.Obl-Instr more kind be.Prs.Sg
 ‘S/he is kinder than me.’

I take the above pattern as showing that AP comparatives allow for bare comparatives freely but that the presence of complement/adjunct phrases introduced by the instrumental/locative postposition *-se*, which is also used to introduce the standard phrase, can make the bare comparative interpretation hard to access.

1.2 Non-Adjectival Comparatives

In contrast to AP-comparatives, all NP comparatives involve *zyaadaa*. There are no bare NP comparatives.

- (6) a. *kitaab* ‘book’ is a count noun:
 Mina-ne Atif-se *(zyaadaa) kitaabẽ parh-ĩ:
 Mina-Erg Atif-Instr more books read-Pfv.FPI
 ‘Mina read more books than Atif.’
- b. *paanii* ‘water’ is a mass noun:
 Mina-ne Atif-se *(zyaadaa) paanii pi-yaa
 Mina-Erg Atif-Instr more water.M drink-Pfv.MPI
 ‘Mina drank more water than Atif.’

Verbal/adverbial comparatives also require *zyaadaa*.

- (7) a. Mona yeh gaanaa Atif-se *(zyaadaa) gaa-tii hai.
 Mona.F this song Atif-Instr more sing-Hab.F be.Prs.Sg
 ‘Mona sings this song more often than Atif.’
- b. Mona yeh gaanaa Atif-se *(zyaadaa) baar gaa-egii.
 Mona.F this song Atif-than more times sing-Fut.F
 ‘Mona will sing this song more times than Atif.’

1.3 A description

Hindi-Urdu comparatives differ in one important respect from English comparatives. English comparative constructions always involve a comparative degree head; English does not have bare comparatives.

- (8) a. John is *(more) intelligent than Bill.
 b. John is tall*(er) than Bill.

We have seen that Hindi-Urdu adjectival comparatives can be bare: they do not always involve *zyaadaa*, which we have so far analyzed as the comparative degree head. However, NP comparatives cannot be bare. The distribution of bare comparatives can be described as follows.

- (9) a. The comparative degree head associated with A can be zero.
 b. The comparative degree head associated with N cannot be zero.

This is not very explanatory. As it stands, one might expect the reverse distribution where NP comparatives can be bare and AP comparatives cannot. However, as far as I know such systems do not exist. Therefore, in what follows, I explore a different hypothesis.

2 *zyaadaa* as the marker of a degree variable

Instead of treating *zyaadaa* as a comparative degree head, let us consider the possibility that *zyaadaa* merely indicates the presence of a degree variable. The parallel I have in mind is the relationship between *more* and *many/much*. The suggestion is that *zyaadaa* is like *many/much* and not like *more*. The comparative meaning has to come from elsewhere and I propose that it comes from a silent comparative degree head. The basic asymmetry between AP comparatives, some of which can be constructed without a *zyaadaa*, and NP comparatives, which always have *zyaadaa* can now be explained as follows: adjectives come with a degree variable; this is in part what it means for something to be an adjective. Nouns, however, do not come with a degree variable. A degree variable needs to be syntactically introduced and the way this is done is through overt modification by adjectival *zyaadaa*.

The following examples display the proposal schematically for AP comparatives.

(10) AP comparatives:

a. without *zyaadaa*:

Atif Ram-se lambaa hai.

Atif.M Ram-than tall.MSg is

‘Atif is taller than Ram.’

LF: [Atif [[ER Ram-se] [$\lambda d \lambda x$ [x is *d*-tall]]]]

b. with *zyaadaa*:

Atif Ram-se *zyaadaa* lambaa hai.

Atif.M Ram-than much tall.MSg is

‘Atif is taller than Ram.’

LF: [Atif [[ER Ram-se] [$\lambda d \lambda x$ [x is *d*-much-tall]]]]

Since adjectives have a degree variable of their own, we don’t need a *zyaadaa* to introduce the degree variable. However, the presence of *zyaadaa* does no harm. The distribution of *much* in English AP comparatives is much more restricted; it has a last resort flavor.³ *Much* can only be present in order to provide a host for the ER morpheme when the morpheme is unable to directly combine with the adjective. Thus it is ok with *intelligent* but not ok with *tall*.⁴

- (11) a. i. John is taller than Bill.
(John is ER tall than Bill.)
ii. #John is more tall than Bill.
(John is ER much tall than Bill.)
b. i. *John is intelligent-er than Bill.
(John is ER intelligent than Bill.)
ii. John is more intelligent than Bill.
(John is ER much intelligent than Bill.)

³I am assuming following Bresnan (1973) that *more* can be analyzed as a combination of *-er* and *much/many*.

⁴Note that in (i), *much* is plausibly an argument of *-er* and does not combine with the adjective directly.

- i. John is much taller than Bill.
(John is much ER tall than Bill.)

The Hindi-Urdu *zyaadaa* does not have such a last resort distribution. If it did, then given that the comparative head in Hindi-Urdu is covert and does not have morphological restrictions, *zyaadaa* would never be possible. Next we turn to NP comparatives. Here the *zyaadaa* is obligatory.

- (12) a. without *zyaadaa*:
 *Mina-ne Atif-se kitaabẽ parh-ĩ:
 Mina-Erg Atif-Instr books read-Pfv.FPI
 ‘Mina read more books than Atif.’
 LF: [Mina [[ER Atif-se] [$\lambda d \lambda x$ [x read ... **books**]]]]
 (ER has no degree variable to bind.)
- b. with *zyaadaa*:
 Mina-ne Atif-se zyaadaa kitaabẽ parh-ĩ:
 Mina-Erg Atif-Instr more books read-Pfv.FPI
 ‘Mina read more books than Atif.’
 LF: [Mina [[ER Atif-se] [$\lambda d \lambda x$ [x read *d*-many books]]]]

A related contrast appears in English NP comparatives where we see that an overt *more*, with an underlying *much/many*, is necessary.

- (13) a. John read more books than Bill.
 (John read ER many books than Bill.)
- b. *John read books-er than Bill.

Given the morphological properties of *-er*, the ungrammaticality certainly has a morphological component - the suffix *-er* presumably needs an adjectival host. However, the Hindi-Urdu data suggests that in addition to being morphologically ill-formed, (13b) is also bad semantically. *-er* has no degree variable to bind.

3 The distribution of silent *-er*

We have proposed a system according to which *zyaadaa* does not by itself have comparative semantics. Its semantics are the semantics of *many/much*. Comparative semantics are contributed by a silent comparative head. As it stands, the system overgenerates. It predicts that comparative readings should be available quite freely, even in simple adjectival structures. This turns out to not be the case.

3.1 Licensing silent *-er*

To see the problem, let us consider the following paradigm, which manipulates the presence/absence of *zyaadaa* and the presence/absence of the *than*-phrase.

- (14) a. with *zyaadaa*, without *-se* ‘than’:
 Atif zyaadaa lambaa hai.
 Atif.M more tall.MSg be.Prs.Sg
 ‘Atif is taller.’ (implicit comparison with someone in the context)
 (does not mean: Atif is very tall.)
- b. without *zyaadaa*, with *-se* ‘than’:

Atif Mina-se lambaa hai.
 Atif.M Mina-than tall.MSg be.Prs.Sg

‘Atif is taller than Mina.’

- c. with *zyaadaa*, with *-se* ‘than’:

Atif Mina-se zyaadaa lambaa hai.
 Atif.M Mina-than more tall.MSg be.Prs.Sg

‘Atif is taller than Mina.’

- d. without *zyaadaa*, without *-se* ‘than’:

Atif lambaa hai.
 Atif.M tall.MSg be.Prs.Sg

‘Atif is tall.’/*‘Atif is taller.’ (comparison reading is unavailable)

What we see is that for a comparative reading to be available, we need either *zyaadaa* or a *than* phrase (or both). In the absence of both of these components, the comparative reading disappears and only the pure adjective reading remains. I take this restriction to indicate that the silent *-er* needs to be licensed by overt material. This could be *zyaadaa* and it could also be a *than*-phrase. The presence of a *than*-phrase unambiguous indicates that there is an *-er*, but it does not follow straightforwardly that *zyaadaa* should also license a silent *-er*. I will provide an explanation for why *zyaadaa* can make a comparison reading available, but for now I state the following licensing restriction on the covert comparative head.

- (15) Th covert comparative head in Hindi-Urdu needs to be licensed by one of the following:

- a. a *than*-phrase
- b. *zyaadaa*

(the licensors themselves need to be overt.)⁵

3.2 Non-comparative *zyaadaa*

The proposal also makes another prediction. Since the *zyaadaa* is claimed to lack comparative semantics, it should be possible for it to appear without a comparative meaning. At first glance, this prediction is false. This can be seen in (14a), which only has comparative semantics. It lacks a non-comparative meaning along the lines of ‘Atif is very tall’. However, it turns out that in certain environments, *zyaadaa* can appear without any associated comparative meaning. The first environment is one where a *zyaadaa* modified adjective is further modified by a degree quantifier such as *bahut* ‘very/a lot’.

- (16) a. AP comparative:

Atif bahut zyaadaa lambaa hai.
 Atif.M very/a.lot much tall.MSg be.Prs.Sg

‘Atif is very tall.’

(expected but unavailable: ‘Atif is a lot taller (than someone).’)

- b. NP comparative:

⁵As noted earlier, not all adjectives allow for bare comparatives equally well. Adjectives that take *-se* complements are unhappy in bare comparatives. I take this restriction to follow from a mis-analysis of the standard *-se* phrase as a complement. Consequently the *-se* phrase is unable to license the covert comparative head.

Atif-ne bahut zyaadaa kitaabẽ khariidĩ:
 Atif-Erg very much books.FPl but.Pfv.F
 ‘Atif bought a lot of books.’
 (expected but unavailable: ‘Atif bought a lot more books (than someone).’)

A non-comparative reading is also available when *zyaadaa* functions as a predicate.⁶

- (17) un dinõ mehengaai zyaadaa thii.
 those days cost.of.living.F much be.Pst.F
 non-comparative: ‘In those days the cost of living was high.’
 comparative: ‘In those days, the cost of living was higher.’

The two meanings can be disambiguated by combining with a *than*-phrase, which brings out the comparative reading, or by adding modification by *bahut* ‘very’, which brings out the non-comparative reading.

- (18) a. with a *-se* ‘than’ phrase: only comparative
 un dinõ aajkal-se mehengaai zyaadaa thii.
 those days nowadays-than cost.of.living.F much be.Pst.F
 ‘In those days, the cost of living was higher than nowadays.’
 b. with *bahut* ‘very’: only non-comparative
 un dinõ mehengaai bahut zyaadaa thii.
 those days cost.of.living.F very much be.Pst.F
 ‘In those days the cost of living was very high.’

The pattern that we have then is as follows:

⁶In this, Hindi-Urdu *zyaadaa* is different from English *many/much*. As Hackl (2001):131-132 notes, the corresponding cases are unacceptable in English.

- i. a. *The guests look many.
 b. *The Red Sox fans looked more than the Yankees fans.
 (versus: The Red Sox fans looked more numerous than the Yankees fans.)

Hackl (2001) represents this by writing the need for a complement in the semantics of *many*, treating it as a gradable determiner. *zyaadaa* in contrast would be just an adjective.

- ii. a. Hackl’s gradable determiner semantics for *many*:
 $[[\text{many}]] = \lambda d \lambda f \lambda g \exists x [f(x) \wedge g(x) \wedge x \text{ has } d\text{-many atomic parts}]$
 b. Corresponding gradable adjective semantics for *zyaadaa* with count/mass nouns:
 $[[\text{zyaadaa}]] = \lambda d \lambda x [\text{amount}(x) = d]$
 (*amount* returns atomic parts for count nouns, quantity for count nouns)

The denotation in (ii.b) handles the predicative cases. For the attributive cases, we will need related denotations.

- iii. a. for NPs, *zyaadaa* introduces degree variable, non-vacuous:
 $[[\text{zyaadaa}]] = \lambda d \lambda f_{et} \lambda x [f(x) \wedge \text{amount}(x) = d]$
 (*amount* returns atomic parts for count nouns, quantity for count nouns)
 b. for APs, *zyaadaa* is semantically vacuous:
 $[[\text{zyaadaa}]] = \lambda d \lambda f_{det} \lambda x [f(x, d)]$

- (19) a. Attributive *zyaadaa* (i.e. *zyaadaa* that modifies an AP or an NP) is only compatible with comparative meanings in isolation. However, further degree modification by *bahut* ‘very/a lot’ makes non-comparative readings available and blocks the comparative meaning.
- b. Predicative *zyaadaa* allows for both comparative and non-comparative readings.

3.2.1 *zyaadaa* in Predicative Position

To understand this pattern, I start by comparing the predicative usage and the attributive usage. In the former, *zyaadaa* functions essentially like an adjective which measure the amount of something in the same way that the adjective *tall* measures the height of something. Being an adjective, *zyaadaa* can combine with a silent POS morpheme yielding the ‘higher than contextual standard’ reading noted in (17). The pattern seen in (18) also follows if we just treat *zyaadaa* as an amount adjective - a garden variety adjective like *lambaa* ‘tall’ behaves exactly the same as can be seen below.

- (20) a. with a *-se* ‘than’ phrase: only comparative
- Atif Tina-se lambaa hai.
Atif.M Tina-than tall.MSG be.prs.Sg
‘Atif is taller than Tina.’
- b. with *bahut* ‘very’: only non-comparative
- Atif bahut lambaa hai.
Atif.M very tall be.Prs.Sg
‘Atif is very tall.’

What remains to be explained is the comparative reading that is also available in (17). Here the parallel with ordinary adjectives breaks down as they do not give rise to comparative meanings on their own.

- (21) plain AP predications lack comparative readings:

Atif lambaa hai.
Atif.M tall.MSG be.Prs.Sg
‘Atif is tall.’/*‘Atif is taller.’ (comparison reading is unavailable)

It turns out that our licensing configuration for *-er* in (15) gives us what we need. The silent *-er* can be licensed by either a *-se*-phrase or by *zyaadaa* and in this case we have *zyaadaa*.⁷

⁷The configurations in which *zyaadaa* can license the covert comparative head can be listed as follows:

- i. a. ... Deg[-er] ... [_{AP} [_A *zyaadaa*] A]
modifies an A, attributive
- b. ... Deg[-er] ... [_{NP} [_A *zyaadaa*] N]
modifies an N, attributive
- c. ... Deg[-er] ... [_{AP} [_A *zyaadaa*]]
is an A, predicative

3.2.2 *zyaadaa* in Attributive Position

We now turn to the trickier case of *zyaadaa* in attributive position. There is an asymmetry between *zyaadaa* in predicative position and *zyaadaa* in attributive position. Unmodified *zyaadaa* in predicative position has both comparative readings and ‘high amount’ readings; in attributive position, however, unmodified *zyaadaa* only has comparative readings.

- (22) unmodified *zyaadaa* in attributive position: only comparative readings

Atif *zyaadaa* *lambaa* *hai*.
 Atif.M much tall.MSG be.Prs.Sg

‘Atif is taller.’/‘*Atif is very tall.’

We are assuming that *zyaadaa* is an expression that means ‘amount’; like other adjectives, it has a degree variable. Let’s assume that the degree variable needs to be bound - this could be done by a covert POS, an overt degree modifier like *bahut* ‘very’, or by a covert comparative head.⁸ Given these assumptions, we expect the following structures to be possible:

- (23) a. POS_d *zyaadaa_d* *tall_d*
 (‘x is tall to a high degree i.e. x is tall’)
 b. $-ER_d$ *zyaadaa_d* *tall_d*
 (‘x is taller.’)
 c. $very_d$ *zyaadaa_d* *tall_d*
 (‘x is tall to a very high degree i.e. x is very tall.’)

However, as we have seen (23a) is not actually available. I suggest that the unavailability of (23a) has a blocking explanation.

Let us examine the corresponding structures without *zyaadaa*.

- (24) a. POS_d *tall_d*
 (‘x is tall to a high degree i.e. x is tall’)
 b. $-ER_d$ *tall_d*
 (‘x is taller.’; **Note:** only available if *than* phrase is present to license -ER)
 c. $very_d$ *tall_d*
 (‘x is tall to a very high degree i.e. x is very tall.’)

If we compare (24a) with (23a), we have two structures that have the same meaning. Let us imagine a reasoning of the following sort:

- (25) When a plain unmodified *zyaadaa* is used with an Adjective, its degree variable needs to be bound. There are two covert operators that can be used:
 a. ER binds its degree variable and creates a new meaning.
 $-ER_d$ *zyaadaa_d* *tall_d* (‘x is taller.’) (= 23b)

⁸I am setting aside the possibility of binding the degree variable by an existential quantifier as that would yield trivial semantics. We will return to this assumption. The proposal of Rett (2008) and the variant of it adopted by Bogal-Allbritten (2012) is relevant here.

- b. POS bind its degree variable; *zyaadaa* is in effect redundant.
 $\text{POS}_d \text{zyaadaa}_d \text{tall}_d$ ('x is tall to a high degree i.e. x is tall') (= 23a)
(equivalent to: $\text{POS}_d \text{tall}_d$ ('x is tall to a high degree i.e. x is tall') (= 24a))
- the desire to make *zyaadaa* have a non-trivial contribution blocks POS here in favor of ER, and makes (23a) unavailable.

I am using blocking as a way of regulating the distribution of covert material that is not forced by the syntactic contexts. Overt material does not fall into the ambit of blocking: (23c) and (24c) are truth-conditionally equivalent but one does not block the other. This is because no silent material is involved in the derivation of either.⁹

We need to also consider the cases with ER. ER needs to be licensed by an overt *than*-phrase or *zyaadaa*. This yields the following cases:

- (26) a. without *than*, without *zyaadaa*: $*\text{-ER}_d \text{tall}_d$
(-ER is not licensed.)
- b. with *than*, without *zyaadaa*: $\text{-ER}_d [\text{than...}] \text{tall}_d$
(-ER is licensed and is the only option; POS would not work.)
- c. without *than*, with *zyaadaa*: $\text{-ER}_d \text{zyaadaa}_d \text{tall}_d$
(-ER is licensed and becomes the only option as the POS structure has been blocked.)
- d. with *than*, with *zyaadaa*: $\text{-ER}_d [\text{than...}] \text{zyaadaa}_d \text{tall}_d$
(-ER is licensed and is the only option; POS would not work.)

We see that once we handle the POS cases, there is no optionality left in the ER cases. Blocking POS together with the licensing conditions on ER covers all the relevant cases.

3.2.3 Back to Predicative *zyaadaa*

Finally, we can now explain the asymmetry between attributive uses of *zyaadaa* and predicative uses. We have claimed that POS gets blocked in the attributive use of *zyaadaa* because the *zyaadaa*-less structure with POS has the same truth-conditional meaning and so ER is favored over POS.

- (27) a. $\text{POS}_d \text{tall}_d$
- b. $*\text{POS}_d \text{zyaadaa}_d \text{tall}_d$

There is no such blocking in the predicative usage as in the predicative usage *zyaadaa* is the predicate because there aren't two semantically equivalent structures. There is no *zyaadaa*-less variant. The predicative usage is compatible with either a POS or an ER and neither blocks the other.

- (28) cost.of.living was ZYAADAA
- a. 'high amount': cost.of.living was $\text{POS}_d \text{ZYAADAA}_d$
(The cost of living was high.)
- b. 'comparative': cost.of.living was $\text{ER}_d \text{ZYAADAA}_d$
(The cost of living was higher.)

⁹My proposal is inspired in a very direct way by proposals developed by Rett (2008) and Bogal-Allbritten (2012) but it differs from their proposals in an important way. In their proposals, the insertion of a silent EVAL operator is motivated by the desire to eliminate synonymy while in my proposal, a covert POS operator is blocked as it would lead to synonymy.

3.3 An Application to NP Comparatives

The proposal can be summarized as follows: *zyaadaa* is an adjective with very weak semantics along the lines of amount/quantity. It does not by itself contribute a comparative meaning but can license ER, a silent degree head that has comparative semantics. The silent degree head can also be licensed by a *than*-phrase. APs come with their own degree variable and so they do not need *zyaadaa* to combine with ER. NPs do not come with degree variable of their own and so they need *zyaadaa* to introduce a degree variable. Therefore NP comparatives obligatorily involve *zyaadaa*.

Once a *zyaadaa* is present, its degree variable needs to be bound. We have seen two covert ways of doing this with APs: POS and ER, and one overt way, *bahut* ‘very’. Now let us see how this works with NPs. Since NPs lack a degree variable, they cannot combine directly with POS/ER/‘very’. *Zyaadaa* is necessary. We have the following degree quantified structures.

- (29) a. (**unavailable**): John read POS_d *zyaadaa_d* books.
 (‘John read a POS quantity of books.’)
 b. (**available**): John read ER_d *zyaadaa_d* books.
 (‘John read more books (than...).’)
 c. (**available**): John read $very_d$ *zyaadaa_d* books.
 (‘John read very many books.’)

As with AP-comparatives, we find that an unmodified attributive *zyaadaa* can only have a comparative meaning. This is unexpected given our proposal that *zyaadaa* has an unspecified amount semantics. One might expect the meaning indicated in (29a) to be available. What might be blocking this structure? My suggestion is that the simple non-degree quantified structure in (30) is relevant.

- (30) John read books.
 (‘John read some books.’)

For it to be relevant for the purposes of blocking though (30) must be truth-conditionally equivalent to (29a). To determine whether this is so, we need to be precise about the interpretation of POS_d *zyaadaa_d* books. At the very least, POS_d *zyaadaa_d* books cannot mean *many books* as that is not truth-conditionally equivalent to *some books*. I will need to assume that for amount quantification, POS quantification is equivalent to saying that there is a non-zero amount, which is in turn equivalent to existential quantification. This distinction between degree quantification and amount quantification is plausible. If we interpret ‘John is POS_d tall_d’ as ‘John has a non-zero degree of tallness’, then we make an extremely weak claim as presumably every physical object has a degree of non-zero tallness. However, interpreting ‘John read POS_d *zyaadaa_d* books’ as ‘John read a non-zero number of books’ does not yield a trivial claim.¹⁰ If we make the above assumptions, then the existence of the (by assumption) truth-conditionally equivalent (30) is enough to block (29a). Consequently, the only way to bind the degree variable introduced by *zyaadaa* through a silent operator is through the comparative ER.

3.4 The proposal for Hindi-Urdu in the context of English

How does the Hindi-Urdu degree system differ from that of English? The first difference is clear: the comparative head in Hindi-Urdu is always silent, while in English the comparative head is always realized

¹⁰If I follow Rett (2008) and Bogal-Allbritten (2012), then this distinction is not necessary. They assume a very weak POS with essentially existential semantics. The ‘POS’ part is taken to follow from pragmatic strengthening triggered by a desire to avoid triviality,

as *-er/more*. To abstract away from the *-er/more* split in English adjectives, let us look the adjectives that take *more* in comparatives and NPs.

(31) *more* APs: assuming that *more* = *-er* + much

- a. John is intelligent.
(John is POS_d intelligent_d.)
- b. John is very intelligent.
(John is very_d intelligent_d.)
- c. *John is intelligent than Bill.
- no silent ER in English
- d. *John is much intelligent.
(John is much_{d?} intelligent_d.)
- e. *John is very much intelligent.
(John is very_d much_d intelligent_d.)
- f. John is more intelligent than Bill.
(John is -ER_d much_d intelligent_d.)

Assuming *much* to be the English counterpart of *zyaadaa*, we see that the distribution of *much* is significantly more restricted than in Hindi-Urdu. As noted earlier, *much* functions like a last resort morpheme that comes in when it is forced to by morphological requirements as in (31f) but is ruled out elsewhere.

Next let us look at degree constructions involving count NPs. Here the putative counterpart of *zyaadaa* would be *many*.

(32) *more* NPs: assuming that *more_{count}* = *-er* + many

- a. John read books.
- b. John read many books.
(John read POS_d many_d books.)
- c. *John read very books.
NPs can't be degree quantified.
- d. John read very many books.
- e. John read books than Bill.
no silent ER in English
- f. *John read many books than Bill.
no silent ER in English
- g. John read more books than Bill.
(John read ER_d many_d books than Bill.)

The fact that *John read many books* lacks a comparative reading in English is unsurprising. This is part of the wider pattern of English lacking a silent ER. From this we can also derive the availability of a non-comparative reading for *John read many books* - blocking only kicks in when there is a choice between two covert degree operators. Here there is no choice. But one puzzle remains: *John read many books* has different truth conditions from *John read books*. In a context where John read only two books, the former would most likely be false while the latter would be true. But to derive the blocking of the non-comparative meaning, we assumed that the truth-conditions of the following structures in Hindi-Urdu were identical.

- (33) a. John read books.
 b. John read $\text{POS}_d \text{ zyaadaa}_d$ books.

I see two ways forward. The first one is to assume that the *many* that we see in (32b) has semantics that are different from the semantics of the Hindi-Urdu *zyaadaa*/the *many* underlying English *more*. This idea might receive some support from the observation that Hindi-Urdu uses a distinct lexical item *kaii* ‘many’ to convey the meaning of (32b). But this direction is not attractive as not only do we need to postulate a new lexical item, we also need to make sure that we block the derivation indicated in (32b), as that would have unattested weak existential semantics.

The second way forward assumes that the choice between the covert degree operators in Hindi-Urdu is not between POS and ER as we have been assuming. Instead it is between a covert $\exists$ operator and ER. The meaning generated from the $\exists$ operator is in general too weak and is therefore pragmatically strengthened¹¹. If we make this assumption, then the difference between Hindi-Urdu and English with respect to blocking reduces to the availability of a silent ER in the former. For blocking we need the following configuration:

- (34) a. string: John read NP.
 John read $\text{exists}_x \text{ NP}_x$.
 b. string: John read *zyaadaa* NP.
 Option 1: John read $\exists_d \text{ zyaadaa}_d \text{ NP}$.
 Option 2: John read $\text{ER}_d \text{ zyaadaa}_d \text{ NP}$.
 Requirements for blocking:
 (34a) and Option 1 are truth-conditionally equivalent.
 There is an alternative to Option 1.

→ Option 1 is blocked.

In English because of the absence of a silent ER, we only have Option 1. Consequently there is no blocking of Option 1. Option 1 has weak truth-conditional semantics and hence it obligatorily undergoes pragmatic strengthening yielding the observed truth conditions.

4 Remaining Issues

4.1 Negative Comparatives

In this paper, I have focused on positive (*more*) comparatives in Hindi-Urdu. There are also negative (*less/fewer*) comparatives. These are quite similar to the positive *zyaadaa* comparatives that we have discussed:

- (35) Ram Ramesh-se kam lambaa hai.
 Ram.M Ramesh-than less tall.MSG be.Prs.Sg
 ‘Ram is less tall than Ramesh.’

There is, of course, one major difference. Positive comparatives can be licensed by either of *zyaadaa* or a *than*-phrase. A *than*-phrase, however, cannot by itself license a negative comparative. For that we need *kam*. My treatment of negative comparatives does not involve a silent ‘less than’ degree operator. Instead I propose that they have the same silent ER as positive *zyaadaa* comparatives; the difference lies in the

¹¹This idea comes from Rett (2008) and is adopted by Bogal-Allbritten (2012).

semantics of the adjectival *kam*, which are akin to the semantics proposed for *little/few*. This is why an overt *kam* is obligatory in negative comparatives.

Constructions with *kam* have the same properties as the corresponding constructions with *zyaadaa*: unmodified predicative *kam* can have both a comparative and ‘low amount’ reading, but unmodified attributive *kam* can only have a comparative reading. Modification by *bahut* ‘very/a lot’ brings out a non-comparative reading.

- (36) a. Ram-ne kam kitaabẽ parh-ı: thĩ:
 Ram-Erg few books read.Pfv.F be.Pst.FPI
 ‘Ram had read fewer books (than...).’
 (lacks non-comparative reading)
- b. Ram-ne bahut kam kitaabẽ parh-ı: thĩ:
 Ram-Erg very few books read.Pfv.F be.Pst.FPI
 ‘Ram had read very few books.’

One interesting side effect of this proposal is that we can handle otherwise perplexing combinations of *kam* and *zyaadaa*.

- (37) *zyaadaa kam* ‘much little’

un purushō-mẽ is hormone-kaa star zyaadaa kam paa-yaa gayaa.
 those men-in this hormone-Gen level much little find-Pass Go.Pfv

‘(Compared to other men), the levels of this hormone were found to be more low in these men.’
 (the hormone levels of the other men were also low.)

If *kam* and *zyaadaa* were degree heads themselves, we would not expect them to combine like this. Since we are treating them as adjectival predicates, it makes sense that one can modify the other in the manner that we see here.

4.2 Differentials

Postulating a silent comparative ER head also helps to explain the distribution of differential phrases in Hindi-Urdu. When *zyaadaa* is modified by a degree modifier as in (38a), no comparative reading is available. This is because *bahut* ‘very/a lot’ closes off the degree variable of *zyaadaa*, which in turn binds the degree variable of the adjective. There is nothing left for the silent ER head to bind.

- (38) a. LF: Ram very_d zyaadaa_d tall_d is
 Ram bahut zyaadaa lambaa hai.
 Ram.M very much tall.MSg be.Prs.Sg
 ‘Ram is very tall.’
 note: no comparative reading
- b. LF: Ram [Ramesh-than [[very much] ER]] tall is
 Ram Ramesh-se [bahut zyaadaa] lambaa hai.
 Ram.M Ramesh-than very much tall.MSg be.Prs.Sg
 ‘Ram is much taller than Ramesh.’

Given this analysis of (38a), it is surprising that adding a *than*-phrase brings back a comparative reading. I propose that this is so because in (38b), the *very much* saturates the differential argument of the ER and not the degree argument of *tall*. The *than*-phrase licenses the ER, which directly combines with *tall*.¹²

4.3 Crisp Judgements

I have argued that Hindi-Urdu has a silent comparative degree head that needs to be licensed by *zyaadaa* or an overt *than*-phrase. The motivation behind this was that ordinary AP predicates that lack either of these licensors do not have comparative meanings. However, Roger Schwarzschild has pointed out one case to me where there seems to be a comparative meaning even in the absence of the relevant licensors. The case is exemplified below.

- (39) Radha aur Mina-mē-se kaun mehnatii hai?
 Radha and Mina-in-from who hard.working be.Prs.Sg
 ‘Out of Radha and Mina, who is hardworking?’

In principle, this construction can be used to pick out the more hardworking member of a pair. However, we can use Kennedy’s crisp judgement test to argue that these cases do not involve direct comparison. Suppose Radha and Mina are both tall for Indian women, being 5 feet 10 inches and 5 feet 9 inches respectively. Then the following discourse feels odd.

- (40) #Radha aur Mina-mē-se Radha lambii hai
 Radha and Mina-in-from Radha tall.F be.Prs.Sg
 ‘Out of Radha and Mina, Radha is tall.’

The discourse feels natural if Mina is significantly shorter - say 4 feet 9 inches. It also feels natural if both Radha and Mina are tall in their comparison class but Radha is still significantly taller than Mina. This suggests that this construction does not involve direct comparison; rather it involves manipulation of contextual standards. Consequently distinguishing between distinct points on a scale that are very close to each other is not easy and leads to oddness.

¹²I need to assume that *very* cannot directly occupy the differential argument slot i.e. the structure in (i) is unavailable:

- i. Ram [[very -ER_d] [zyaadaa_d tall]] is.

Hindi-Urdu *kaafii* ‘quite’ patterns in this regard with *bahut* ‘very’. Curiously, *thoraa* ‘a little’ behaves differently and only allows for comparative readings.

- ii. LF: Ram [[a.little -ER_d] zyaadaa_d tall_d] is

Ram thoraa zyaadaa lambaa hai.
 Ram.M a.little much tall.MSg be.Prs.Sg

‘Ram is a little taller.’

Something similar seems to hold for English, where *very* needs to combine with *much* to function as a differential phrase while *a little* does not.

- iii. a. John is very tall.
 b. John is 1 cm./very *(much)/a little taller than Bill.

5 Summary

I have argued that contrary to what is assumed in Bhatt and Takahashi (2011), *zyaadaa* is not the realization of the comparative degree head. The comparative degree head in Hindi-Urdu is covert and like many covert elements, it needs to be licensed by overt elements. Its licensors are the standard *-se* phrase and *zyaadaa*. Either of these has the capability of licensing the comparative degree head and hence making a comparative meaning accessible.

In addition to being a licensor of the covert comparative degree head, *zyaadaa* also plays an important role in the formation of NP comparatives. It introduces a degree variable which makes it possible for phrases that do not come with their own degree variable to participate in degree quantification. Therefore all non-AP comparatives involve *zyaadaa*. AP's come with their own degree variable and hence *zyaadaa* is not essential for degree quantification. The standard phrase can license the comparative degree head in the absence of *zyaadaa* giving rise to bare comparatives.

One happy result of this proposal is that we are now able to explain why in certain environments the presence of *zyaadaa* is not accompanied with comparative semantics. This is unsurprising under our proposal since *zyaadaa* does not have comparative semantics; it merely has the ability of licensing a silent comparative head and hence making comparative semantics available. In other environments though, the presence of *zyaadaa* obligatorily introduces a comparative meaning. I derive this by appealing to the very weak semantics of *zyaadaa*. Unless otherwise strengthened, the truth-conditional contribution of *zyaadaa* is minimal and structures involving it are synonymous from structure without *zyaadaa*. A pragmatic principle that attempts to avoid systematic synonymy forces the introduction of the covert comparative degree head in such environments.

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