

The semantics of *hi**

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1 Introduction

This squib presents an account of the distribution of the particle *hi* in Hindi sentences. The similarity and differences between *sirf*(only) and *hi* are explored. I postulate that the particle *hi* marks the D-linked status of an entity. This then enables us to explain some constraints on the distribution of *hi* in correlatives. The behaviour of *hi* under negation is also explored and some interesting subject-object asymmetries are explained. Finally a claim is made about the relation between ‘only’ and ‘even’ based on the behaviour of *hi* under negation.

2 Similarities and differences with *sirf*

sirf(only) and *hi* behave somewhat similarly in simple sentences. Cf. the following examples.

- (1) *sirf Ram ne Sita ko dekha.*
only Ram ERG Sita ACC see-PST.
‘Only Ram saw Sita.’
- (2) *Ram ne hi Sita ko dekha.*
Ram ERG Sita ACC see-PST.
‘Only Ram saw Sita.’
- (3) *Ram ne sirf Sita ko dekha.*
Ram ERG only Sita ACC see-PST.
‘Ram saw only Sita.’

*Thanks are due to Sabine Iatridou, Ken Hale, Alec Marantz, Veneeta Srivastav and Anoop Sarkar.

- (4) *Ram ne Sita ko hi dekha.*
 Ram ERG Sita ACC see-PST.
 ‘Ram saw only Sita.’
- (5) *Ram ne Sita ko sirf dekha.*
 Ram ERG Sita ACC only see-PST.
 ‘Ram only saw Sita.’
- (6) *Ram ne Sita ko dekha hi .*
 Ram ERG Sita ACC see-PST .
 ‘Ram only saw Sita.’

The above examples seem to suggest that *hi* is basically a postnominal ”only”. This turns out not to be the case. Firstly as the following example shows *hi* and *sirf* can occur together on the same NP.

- (7) *sirf Ram ne hi Sita ko dekha .*
 only Ram ERG Sita ACC see-PST.
 ‘Only Ram saw Sita.’

Further while *sirf* can occur more than once in a simple sentence, *hi* cannot as 8 and 9 show.

- (8) *sirf Ram ne sirf Sita ko dekha .*
 only Ram ERG only Sita ACC see-PST.
 ‘Only Ram saw only Sita.’
- (9) * *Ram ne hi Sita ko hi dekha .*
 Ram ERG Sita ACC see-PST.

Based on these differences I conclude that *hi* is not the postnominal equivalent of *sirf*.

3 Discourse-linking and the distribution of *hi*

The NP’s modified by *hi* have to be D-linked as the following examples show. Cf.10 and 11.

- (10) * *Ram kisi ko hi dekh sakta hai.*
 Ram someone ACC see can PRS.
- (11) *Ram kisi laRke ko hi dekh sakta hai.*
 Ram some boy ACC see can PRS.
 ‘Ram can only see a boy.’

Following Pesetsky(87) which treats ‘which’-phrases as D-linked and ‘what’ and ‘who’ as non D-linked, I posit that the distinction between 10 and 11 crucially depends on the fact that *kisi*(someone) is not D-linked while *kisi laRke*(some boy) is. Similar contrasts obtain in non modal contexts and negative contexts. Cf..12,13, 14 and 15.

(12) * *Ram kisi ko hi dekh raha hai.*
 Ram someone ACC see PROG PRS.

(13) *Ram kisi laRke ko hi dekh raha hai.*
 Ram some boy ACC see PROG PRS.
 ‘Ram is watching some boy only.’

(14) * *Ram kisi ko hi nahin jaanta hai.*
 Ram someone ACC not know PRS.

(15) *Ram kisi laRke ko hi nahin jaanta hai.*
 Ram some boy ACC not know PRS.
 ‘Ram doesn’t even know any boy.’

The sudden switch in 15 from ‘only’ to ‘even’ is to be noticed. This will be discussed in a later section. However the D-linked vs. non D-linked discussion is insufficient as the following contrast shows. Cf. 16 and 17.

(16) * *Ram kis ko hi nahin jaanta hai.*
 Ram who ACC not know PRS.

(17) * *Ram kis laRke ko hi nahin jaanta hai.*
 Ram which boy ACC not know PRS.

In 17 the wh-phrase *kis laRke*(which boy) is by all means D-linked but still it does not permit *hi* as a modifier. Hence clearly a stronger condition than just D-linking is required here. *hi* can modify ‘some girl’ while it can’t modify ‘which girl’. I propose that *hi* can only modify elements that have been evoked in the preceding discourse and whose identity is known to the speaker. This rules out wh-phrases for one and retains the idea behind D-linking.

3.1 Some non truth conditional uses of *hi*

One advantage of this approach is that it enables us to explain certain non truth-conditional usages of *hi* as in 18 and 19.

- (18) *to us me mere pati ka yogdaan bahut hi jyada*
 so that in my husband GEN contribution very great
hai.
 be-PRS.
 ‘so my husband’s contribution is very great in that .’

Here *hi* acts as an intensifier - the implication seems to be that it is ‘very’ great even with respect to the speaker’s standards which enter the picture due to the D-linking nature of *hi*. Similarly Cf. 19.

- (19) *to aap ko pataa hi hai mai kal Delhi me thi.*
 so you ACC know PRS I yesterday Delhi in be-PST.
 ‘so you (of course) know I was in Delhi yesterday.’

Here the *hi* signals that the above piece of information is known to the hearer. The presence of *hi* due to its D-linking nature indicates that this case of ‘knowing’ is discourse-old. This section is admittedly quite sketchy but I hope it brings out the fact that the discourse linking nature of *hi* is common to both truth conditional and non truth conditional usages of *hi*.

4 Constraints on occurrence with relative clauses

The differences in the distribution of *sirf* and *hi* surface in the context of relative clauses. I shall first discuss the data and then provide an account of the constraints that govern the distribution of *hi*.

While *sirf* can modify the correlative clause in a correlative and the relativised NP in a relative clause construction, *hi* cannot. For correlatives Cf. 20,21,22,23 and 24.

- (20) *sirf [jo laRkii kharii hai] vo lambii hai.*
 only REL girl standing be-PRS DEM tall be-PRS
 ‘Only the girl who is standing is tall.’
- (21) * *[jo laRkii hi kharii hai] vo lambii hai.*
 REL girl standing be-PRS DEM tall be-PRS
- (22) * *[jo laRkii kharii hai] hi vo lambii hai.*
 REL girl standing be-PRS DEM tall be-PRS
- (23) *[jo laRkii kharii hai] sirf vo lambii hai.*
 REL girl standing be-PRS only DEM tall be-PRS
 ‘Only the girl who is standing is tall.’

- (24) *[jo laRkii kharii hai] vo hi lambii hai.*
 REL girl standing be-PRS DEM tall be-PRS
 ‘Only the girl who is standing is tall.’

Embedded relative clauses show quite the same pattern - *sirf* can modify the relativized NP while *hi* can't. Cf. 25, 26 and 27.

- (25) *sirf [vo larkii]_i [jo t_i kharii hai] lambii hai.*
 only DEM girl REL standing be-PRS tall be-PRS
 ‘Only the girl who is standing is tall.’

- (26) * *[vo larkii]_i hi [jo t_i kharii hai] lambii hai.*
 DEM girl REL standing be-PRS tall be-PRS

- (27) * *[vo larkii]_i [jo t_i kharii hai] hi lambii hai.*
 DEM girl REL standing be-PRS tall be-PRS

The above distributional facts can be explained by

- 1 *hi* can only modify discourse grounded NP's.
- 2 Postpositional elements in Hindi do not permit material between themselves and the head they attached to.

The first constraint has been discussed in a previous section. The particle *hi* is a postpositional element. It is the only particle that can intervene between a standard case-marking kind of postposition. Cf.28 and 29.

- (28) *Ram hi ko medal milega.*
 Ram ACC medal get-will
 ‘Only Ram will get the medal.’

- (29) *Ram ko hi medal milega.*
 Ram ACC medal get-will
 ‘Only Ram will get the medal.’

Apart from this *hi* and postposition alternation, no other material is permitted in between a head and its position, not even a relative clause. Cf.30 which is ungrammatical for many and degraded for all speakers.

- (30) ?* *[vo larkii]_i [jo t_i kharii hai] ne Ram ko maara hit*
 DEM girl REL standing be-PRS ERG Ram ACC
 maara
 hit

Also while scrambling is possible, it is not possible to strand postpositions while scrambling. All this is to show that the relationship between a postpositional element and a head it modifies is a very local one and does not allow intervening material.¹

Now we can explain the ungrammaticality of 21, 22, 26 and 27. 26 and 21 are ungrammatical because of the discourse grounding constraint. Unlike in an attributive relative clause, in a restrictive relative clause like 26 and a correlative like 21, the relativized NP is not discourse grounded. Hence *hi* cannot modify it. This argument gets some support from the fact that *hi* can indeed modify the relativized NP in an attributive relative clause. Cf.31

- (31) *in laRkon me se Ramesh hi [jis se mai Calcutta*
 these boys PART Ramesh REL INST I Calcutta
me mila tha] buddhimaan hai
 in met PST intelligent be

‘Out of these boys only Ramesh who I met in Calutta is intelligent.’

Here *hi* can modify *Ramesh* because unlike the relativized NP’s in RRC’s or correlatives it is discourse-grounded.

22 and 27 are ungrammatical because the relative clause intervenes between a postpositional particle and the head of the phrase the particle is attached to. Finally 24 is grammatical because the demonstrative NP can be modified by *hi*, it having been discourse grounded by the preceding correlative clause.

5 The semantics

We have seen in an earlier section that simple sentences with *hi* end up having approximately the same meaning as the corresponding sentences with *sirf*. At least their truth conditional meaning is the same. Yet I decided against treating *hi* as the postpositional version of *sirf*. For one thing, unlike *sirf* which means ‘only’, *hi* produces the effect of ‘only’ without actually meaning that. It is more like a case-marking postposition which contribute to the meaning by marking a relationship without actually meaning anything. It is in a sense syncategorematic. At this point we know that *hi* marks a kind of discourse-grounded status. Since *hi* does produce the effect of ‘only’ in simple clauses could it be kind of morphological focus marking akin to the morphological marking of specificity

¹Ken Hale pointed out that these locality effects between a head and a postposition are not unique to Hindi. Basque is a good example. In Navajo also things are similar, relative clauses can extrapose, they cannot extrapose in a clause governed by a postposition. I.e., *[[... H] [rel cl]]P. The case could be made, of course, that the reason for this is that H (head) and P (postposition) must form a word. But that won’t do. It is also true, to a large extent at least, that such “extraposition” cannot happen even where the final element is itself a lexical head, not an affix. In Navajo again, the above configuration is impossible where P is replaced by V, say a verb like “want” or “say”/“think”.

in Turkish by ACC case. (Enc91)? A focus marking treatment would give us the ‘only’ sense of *hi* for free.

However there are reasons against adopting a focus-marking analysis of *hi*. As we had seen in section two, while *sirf* can occur twice in a sentence, *hi* can’t. Cf.8 and 9. We know that we can indeed focus more than one constituent in a sentence, so if *hi* was indeed doing focus marking, we would not expect it to have such a constraint. Another reason not to do so comes from the behaviour of *hi* under negation. Under negation, *hi* starts producing the effect of ‘even’ instead of ‘only’. A focus based analysis would have little success in explaining this alternation.

Before we move on to the behaviour of *hi* under negation, it should be noted that the way *hi* produces an ‘only’ reading is very much similar to the way an only reading is produced in it-clefts. Cf.32

(32) It was John who came to the talk.

Following Delin(90), here it must be the case that John and only John, of the set of salient individuals came to the talk. Here it is the association of syntactic form with discourse function which produces the sense of ‘only’. If Hindi could be argued to be having a similar construction though only at LF, we would be able to explain why it is not possible to have two *hi*’s in a sentence - just as two NP’s cannot be simultaneously clefted. However since there is not much more to suggest any other similarity between *hi* sentences and it-clefts, I shall not pursue this line of inquiry further.

5.1 *hi* under Negation

We have seen in previous sections that *sirf* and *hi* produce the same truth conditions in simple sentences without negation. Under negation, however this symmetry collapses. Cf.33 and 34.

(33) *Ram ke-paas sirf bandook nahin hai.*
 Ram with only gun not be-PRS
 ‘The only thing Ram doesn’t have is a gun.’

(34) *Ram ke-paas bandook hi nahin hai.*
 Ram with gun not be-PRS
 ‘Ram doesn’t even have a gun.’

33 also has another reading due to metalinguistic negation which can be paraphrased as ”Ram doesn’t just have a gun, he has more”. 34 doesn’t have this reading. The sentences without negation that correspond to 33 and 34 on the other hand have the same truth conditional meaning. One possibility that arises at this point is that *hi* is actually ambiguous between two different *hi*’s: ‘only’-hi

and ‘even’-hi which only occurs under negation. As the following examples shall show, this lexical ambiguity approach cannot be correct.

33 and 34 are both cases where the NP with a *hi* is a VP-internal object. Cf. 35,36 and 37.

(35) *sirf Ram ke-paas bandook nahin hai.*
 only Ram with gun not be-PRS
 ‘Only Ram doesn’t have a gun.’

(36) *Ram ke-paas hi bandook nahin hai.*
 Ram with gun not be-PRS
 ‘Only Ram doesn’t have a gun.’

(37) *Ram ke-paas hi bandook nahin hai.*
 Ram with gun not be-PRS
 ‘Even Ram doesn’t have a gun.’

It should be noted that 36 and 37 are the same sentence, it is just that the sentence is ambiguous. If we were to adopt the lexically ambiguous *hi* hypothesis, we would have no easy way of accounting for the distribution of ‘even’-hi’s and ‘only’-hi’s. Clearly it will be insufficient to depend on the scope of negation since that alone is not able to explain the ambiguity in 36. Assuming negation has scope over the VP in Hindi, to derive the ambiguity we would have to assume two different generation sites for the subjects, one internal to the VP and the other external. This however is against standard approaches to subjects in Hindi(Mahajan90) which assume the subject to be generated VP-internally at D-structure and raise it higher at S-structure/LF.

5.2 A Syntactic Explanation

In order to provide a syntactic explanation for the above subject-object asymmetries, I need to make the following assumptions -

- 1 Following Sportiche, Kitagawa and Mahajan arguments are generated VP-internally.
- 2 At S-structure, the subject raises to Spec-IP(or Spec-AgrS)
- 3 Negation has scope only over VP(or in a weaker version, does not have scope over Spec-AgrS)
- 4 Objects remain in-situ(or if they don’t, stay within the scope of negation)
- 5 Arguments can be interpreted at either their D-structure or S-structure positions.

Finally an assumption about the very nature of *hi*. I have already rejected the lexical ambiguity approach - what cannot be rejected though is the fact that negation does something to *hi*. I propose that *hi* is a kind of a negative polarity item. When under the scope of negation, it produces the effect of ‘even’, otherwise it produces the effect of ‘only’. I shall try and provide an account of how the two readings are produced in the next section.

Now the absence of ambiguity in 34 and the presence in 36 follows straightforwardly - The object in 34 is unable to escape from the scope of negation, hence we only get the ‘even’ reading. The subject is generated VP-internally where it is within the scope of negation thus giving us the ‘even’ reading in 37. At S-structure however, it raises to Spec-AgrS where it is outside the scope of negation thus giving us the ‘only’ reading in 36. This approach gets some support from scrambling facts. If we scramble the object, beyond the subject to a VP-external position we immediately get the missing ‘only’ reading. Cf. 38 and 39.

(38) [*bandook hi*]_i [*Ram ke-paas t_i nahin hai*].
 gun Ram with not be-PRS
 ‘Ram doesn’t even have a gun.’

(39) [*bandook hi*]_i [*Ram ke-paas t_i nahin hai*].
 gun Ram with not be-PRS
 ‘The only thing Ram doesn’t have is a gun.’

The missing reading in 39 reappears because scrambling allows the object NP to be interpreted from a position where it is not in the scope of negation, a position at least higher than Spec-AgrS.

6 Only, even and *hi*

The goal of this final section is to show that the two readings produced by *hi* are not independent but arise due to interaction of negation and the semantics of *hi* in a principled way. The first thing to note is that what we have here is not reducible to just a scopal ambiguity. Cf. 40.

(40) [[*Ram hi*]_i [*t_i nahin aaya tha*]]
 Ram not come PST
 ‘Only Ram hadn’t come.’

Suppose the salient set of people consists of Ram, Sam and Ham. Then if we treat *hi* as ‘only’, we get the following truth conditions: Came(Sam) and Came(Ham) and not(Came(Ram)) which is indeed what we want. However consider the other case where the subject NP is interpreted within the scope of negation. Cf 41.

- (41) [*Ram hi nahin aaya tha*]
 Ram not come PST
 ‘Even Ram hadn’t come.’

Still continuing with the same salient set, we get the following truth conditions:
 not(Came(Ram) and not(Came(Sam)) and not(Came(Ham))) =
 not(Came(Ram)) or Came(Sam) or Came(Ham)

These are clearly not the desired truth conditions. This was in a way to be expected because ‘even’ takes wide scope even under negation.²

Another approach would be to try a Kadmon&Landman(93) style analysis. Their analysis consists of three components:

Widening

Strengthening

Locality

While in a general sense this approach seems attractive - the claim they make for ‘any’ is the one I want to make for *hi* - that it is not ambiguous, instead it produces different senses depending upon how it is used. However producing a similar story for *hi* is not easy. First of all while ‘any’ modifies indefinites, *hi* only modifies discourse-grounded NP’s - so it is not possible to talk about Widening (or Narrowing) in any straightforward fashion. In an abstract sense, though we can consider the effect of ‘only’ to be a kind of narrowing, from a contextually salient set to just that particular entity. Similarly the effect of ‘even’ can be considered to be a kind of widening from a given entity to its salient set. So unlike ‘any’ which widens both when under and when not under the scope of negation, *hi* narrows outside the scope of negation and widens under the scope of negation.

This is somewhat interesting because once we make the above assumption regarding the narrowing/widening behaviour of *hi*, we can show that it has the property of strengthening. According to Kadmon&Landman(93): It is a very prominent characteristic of ‘any’ as well as any other NPIs that they make the statement they are in stronger. On its own, ‘only’ doesn’t clear the strengthening test. ‘only’ fails in negative environments while ‘even’ doesn’t. Now together *hi* can clear the strengthening test. Cf.42 and 43.

- (42) Only John came.

- (43) Only/Even John didn’t come.

Let the salient set consist of John, Kyle and Leander. For ‘only’ to be strengthening, the narrow reading should entail the original one, and for ‘even’ to strengthen the wide reading should entail the original one. First consider 42.

²This was pointed out to me by Sabine Iatridou.

'only' narrow reading = $C(J)$ and $\text{not}(C(K))$ and $\text{not}(C(L)) \implies$
original reading = $C(J)$

Now consider 43. We have to look at the case where 'only' is under the scope of negation - when it is not under the scope of negation, it clears strengthening as in 42.

'only' narrow reading = $\text{not}(C(J))$ or $C(K)$ or $C(L) \star \Rightarrow$
original reading = $\text{not}(C(J))$

On the other hand 'even' does strengthen in a negative environment.

'even' wide reading = $\text{not}(C(J))$ and $\text{not}(C(K))$ and $\text{not}(C(L)) \implies$
original reading = $\text{not}(C(J))$

We still however have to explain how the 'even' reading gets generated under negation from *hi*. For this I shall use some ideas from Horn(69). According to Horn, the meaning of 'only' consists of a presupposition and an assertion. Thus $\text{Only}(x=a, Fx)$ means

P: Fx

A: $\text{Only}(x=a)$ satisfies F

Similarly the meaning of 'even' can be broken down into a presupposition and an assertion. Thus

$\text{Even}(x=a, Fx)$ means

P: Something other than $(x=a)$ satisfies F

A: Fx

That is, the assertion of 'even' is the presupposition of 'only' and the presupposition of 'even' is the negation of the assertion of 'even'. Negating a sentence does not effect its presupposition - hence *hi* under negation, retains the presupposition as such and only the assertion is negated. This brings out the close connection between 'only' and 'even' and hopefully, how they come together in *hi*. Still to be explained is how the shift from presupposition to assertion takes place during negation and also why such a change does not take place with the english 'only' under negation.