The Multiple Faces of Hindi-Urdu bhii

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Some Preliminaries

**ONE bhii: MULTIPLE FACES**

1a. umaa aayii thii. uske saath anu bhii aayii thii
   Uma had come. Anu had also come with her.
1b. sab log aaye the. (yahaaN tak ki) anu bhii ayii thii
   Everyone had come. (to the extent that) even anu had come.

2a. jo bhii vahaaN kharii hai, vo bahut lambii hai.
   Whoever is standing there (I don’t know who) is tall.
2b. jo bhii vahaaN jaataa hai, vo vahiiN rah jaata hai
   Whoever goes there (anyone who goes there) stays there.

3a. anu-ne ek bhii kitaab *(nahiiN) khariidii
   Anu didn’t buy any book.
3b. anu-ne koi bhii kitaab *(nahiiN) khariidii
   Anu didn’t buy any book.
3c. anu koi bhii/*ek bhii/koi bhii ek kitaab paRh saktii hai
   Anu can read any/any one book.

**Polysemous bhii: also, even, -ever-ID, -ever-FC, any-NPI, any-∀/∃FCI**

**Important caveat:** I am only considering bhii at the DP level. The correlations with English equivalents can be radically different for bhii at VP or TP level.
The Staring Point:

Lahiri (1998:57): NPIs in [Hindi] are composed of a weak indefinite plus a particle *bhii* meaning ‘even’.

Chierchia (2013: 59): In many languages, NPIs are formed by adding a focal element (like the word for *even* or *also*) to an indefinite or a *wh*-word. A case in point is Hindi, insightfully discussed in Lahiri (1998).

- The relationship between *even* and *also* has not been (sufficiently) explored in the literature on polarity.

Recent relevant work: Szabolcsi (2017)
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**Lahiri** (1998:72): the particle *bhii* is not an NPI in itself; only the combinations *ek bhii, koi bhii, zaraa bhii*, etc. etc. Hence the observation about *jo+bhii* is not strictly relevant to the concerns of this paper. Of course, the behavior of *jo+bhii* is an interesting topic in itself.

**Chierchia** (2013: 340): [the *qualunque* series] resemble English *whatever/whoever*, which I have not discussed here (nor will be able to).

- The “licensing” of polarity items in definite noun phrases has not been explored (sufficiently) in the Alternatives and Exhaustification approach to polarity licensing (Chierchia 2013, among others).

**Recent Relevant Work**: Caponigro and Falaus (2017) & Dayal (2013, talk)
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The Multiple Faces of Hindi-Urdu *bhii*

**Analysis:**

**Option 1:** *bhii* is lexically ambiguous

\[ bhii_1 = \text{also} \]
\[ bhii_2 = \text{even} \]
\[ bhii_3 = \text{-ever-ID} \] and so on

**Option 2:** *bhii* is underspecified in such a way that in combination with other elements of a sentence, it gives rise to a range of different meanings.

\[ X = \text{also} \]
\[ bhii = W + \quad Y = \text{even} \]
\[ Z = \text{-ever-ID} \] and so on

- Lahiri (1998) takes the first option
- This talk pursues the second option: whether \( X, Y, Z \) are identical to \text{also}, \text{even}, \text{-ever-ID}, or close enough, is an empirical matter.
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OVERVIEW OF THE TALK

Part I: Is it possible to derive the also-even dichotomy by defining a single core meaning for bhii?

Part II: Is it possible to derive the –ever-Identity meaning from that core?

Part III: Should we even expect there to be a lexical exponent in Hindi-Urdu (or any language for that matter) whose meaning is the same as that of English even?
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**Extension:** Can we get some insight from the above exercise that might shed light on possible/impossible cases of doubling?

4a. anu-ne [ek bhii kitaab] / [ek kitaab tak] nahiiN paRhii √tak + bhii
   “Anu didn’t read even one book.”
   b. yehaaN tak ki anu-ne [ek bhii kitaab] nahiiN paRhii
   c. ek bacce-tak-kos-bhii maluum hai ki yeh galat hai not sure but
   “Even a child knows that this is wrong.”
   d. bacce tak bhii jaante haiN ki yeh galat baat hai
   “Even children know that this is wrong.”

5a. anu-ne [ek hii kitaab] / [sirf ek kitaab] paRhii √sirf +hii
   b. anu-ne [sirf ek hii kitaab] paRhii
   “Anu read only one book.”

6a. yehaaN tak ki anu-ne [ek hii kitaab] (nahiiN) paRhii
   b. * ek bacce-tak-kos-hii yeh maluum hotaa hai *tak + hii
   c. * anu-ne [ek hii kitaab bhii] / [ek bhii kitaab hii] paRhii *bhii + hii
I. H-U bhii: also and even

What is the *also* meaning?  Additivity

What is the *even* meaning?

**Scalarity:** The focus associate of *even* marks an endpoint in a scale

**Additivity:** There is another element (≠ the associate) on that scale with the same property.

**Additivity:**

7a. *anu* haNs rahii hai. *ravi* bhii haNs raha hai
   “Anu is laughing. Ravi is also laughing.”

b. *koiN nahiiN* haNs raha hai. *ravi* bhii haNs raha hai
   *No one is laughing. Ravi is also laughing.”
I. H-U *bhii*: also and even

Scalarity:

8a. ek *bhii* bacca na hiiN haNsaa
   One kid not laughed
   “Not even one kid laughed.”

b. * do *bhii* bacce na hiiN haNse
   two kid not laughed
   *“Not even two kids laughed.”*

{ … three kids didn’t laugh, two kids didn’t laugh, one kid didn’t laugh }

q ≡ q′ ≡ p

¬ (1 kid laugh)—T
¬ (2 kids laugh)—T
¬ (1 kid laugh)—F
¬ (2 kids laugh)—F

- There is an ordering given by natural numbers but this ordering can also come about through contextual factors.
- Natural language has operators that refer to such orderings as part of their meaning.
I. H-U bhii: also and even

Lahiri’s Account (in brief)

9a. ek bhii bacca *(nahiiN) haNsaa
   One bhii kid not laughed

b. p = one kid laughed
   Alt = {one kid laughed, two kids laughed…}
   \[ p \Leftarrow q \]
   \textit{Scalarity: } \forall q \text{ in } Alt [p <_{\text{less-likey}} q] \quad \text{but 2 kids laughed } \Rightarrow 1 \text{ kid laughed}
   (p\text{ is the least likely proposition}) \quad \text{so } p \text{ can’t be less likely than } q.

\textit{Result: } Ungrammaticality

c. p = one kid didn’t laugh
   Alt = {… not(two kids laugh), not(one kid laugh)}
   \[ q \Leftarrow p \]
   \textit{Scalarity: } \forall q \text{ in } Alt [p <_{\parallel} q] \quad \text{Since 2 kids didn’t laugh } \not\Rightarrow 1 \text{ kid didn’t laugh}
   one kid not laughing can be less likely than two kids not laughing. Imagine a context in
   \textit{Result: } Grammaticality which no one is supposed to laugh – no kid
   laughing (ie all kids exercising control) is
   \textit{Additivity: } \exists q \text{ in } Alt [q \neq p \land \text{true}(q)]

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I. H-U bhii: also and even

Clarification:

- I am not arguing against Lahiri’s account of NPI [ek bhii N]

- I am arguing against the view (not necessarily Lahiri’s) that the meaning of H-U bhii is exactly the same as the meaning of English even, and unambiguously so.

- I am trying to separate out the parts of the analysis *(a set of alternatives, the requirement of additivity, & the requirement of scalarity)* and see how to parse them out morphologically.

- Chierchia (2013): Set of alternatives interacting with Exhaustivity Operators (OP-ONLY and OP-EVEN): key ingredients of the explanation:

  \[ \text{OP-EVEN}_{\text{scalarity} \& \text{additivity}} \quad \lambda p: \forall q \in \text{Alt} \ [p < q] \land \exists q \in \text{Alt} \text{ true}(q). \ p \ \text{p<q=p is less likely than q wrt some contextually relevant probability measure.} \]

  \& \quad \text{OP-ONLY}_{\text{exclusivity}} \quad \lambda p: p(w). \ \forall q \in \text{Alt} [\text{true}(q) \rightarrow p \subseteq q] \]
I. H-U *bhii*: also and even

Proposal: the particles *bhii* and *hii* are presuppositional

10a. \([bhii \; \alpha]\) denotes \(\alpha\) and adds a presupposition: \(\exists x [x \in C \land x \neq \alpha \land P(x)]\)
   
   b. \([hii \; \alpha]\) denotes \(\alpha\) and adds a presupposition: \(- \exists x [x \in C \land x \neq \alpha \land P(x)]\)
   
   setting aside the distinction between pre & post suppositions

11a. anu haNsii. [ravi]-*bhii* haNsaa
   
   \[\text{laugh(ani) \land laugh(ravi)}\]
   
   \textbf{felicitous: anu satisfies additivity of *bhii*}

   b. anu haNsii. [ek laRkaa]-*bhii* haNsaa
   
   \[\text{laugh(ani) \land } \exists x [\text{boy(x) \land laugh(x)}]\]
   
   \textbf{felicitous: anu satisfies additivity of *bhii*}

   ram, another boy, would not

12. *anu haNsii. [ravi]-*hii* haNsaa
   
   \[\text{laugh(ani) \land laugh(ravi)}\]
   
   \textbf{infelicitous: anu violates the exclusivity of *hii*.}

\[[bhii] \neq [even] \quad [hii] \neq [only]\]

The two particles have components of meaning that are

compatible/incompatible with covert operators that work on alternative sets:

\(\text{OP-EVEN}_{\text{scalarity & additivity}} \; \& \; \text{OP-ONLY}_{\text{exclusivity}}\)
I. H-U bhii: also and even

- The additivity requirement of OP-EVEN is compatible with the additivity of bhii and incompatible with the exclusivity of hii.

- The exclusivity requirement of OP-ONLY is compatible with the exclusivity of hii and incompatible with the additivity of bhii.

- If $tak = \text{OP-EVEN}$ & $sirf = \text{OP-ONLY}$

  the paradigm in (4)-(6) regarding possible and impossible combinations would have an explanation

\[
\sqrt{tak} + bhii \quad *tak + hii \\
\sqrt{sirf} + hii \quad *bhii + hii
\]

13. * anu-ne $[sirf \ ek (bhii) \ kitaab (bhii)] / [sirf \ ek (bhii) \ kitaab (bhii)] \ paRhii$

  $*sirf + bhii$

*note of caution*: overt and covert exponents of OP-ONLY and OP-EVEN may not be identical (see section 3)
I. H-U *bhii:* also and even

**Internal and External bhii:**

\[ [\text{DP} \, \text{D (bhii)} \, \text{N (bhii)}] \, (\text{bhii})] \]

\( \text{Internal-focus} \quad \text{External-no-focus} \)

14. \[ [\text{DP} \, \{\text{ek (bhii)} \, \text{baccaa}\} \, (\text{bhii})]\] nahiiN haNsaa

one kid not laughed

15a. \textbf{EK} bhii baccaa nahiiN haNsaa \hspace{1cm} \text{Internal bhii; \ Focus on Numeral}

\textbf{b. EK} baccaa bhii nahiiN haNsaa \hspace{1cm} \text{Focus on Numeral}

\textbf{c. ek BACCAA bhii} nahiiN haNsaa \hspace{1cm} \text{Focus on Noun}

- String identical to External bhii but internal: \[ [\text{Dpek [NP BACCAA bhii]}] \]

Focus creates alternatives:

\{one, two, three…\} \quad \{child, teenager, adult\}

Alternatives, once generated, must be put to use: OP-ONLY, OP-EVEN (Rooth 1992, Chierchia 2013)

16a. Anu likes \textbf{RAVI} (not Uma / \#and also Uma)

anu \textbf{RAVI}-ko pasand kartii hai (uma ko nahii / \#aur uma ko bhii)

“Anu likes (only) ravi.” Covert OP-ONLY

\textbf{b. Everyone} showed up. Imagine, \textbf{MY EX} was there.

Covert OP-EVEN
I. H-U bhii: also and even

Getting even with Focus

17a. [EK bhii bacca] nahiiN haNsa
b. [EK bacca bhii] nahiiN haNsa
   Internal bhii; Focus on Numeral
   Internal bhii; Focus on Numeral
   Internal bhii; Focus on Noun

c. [ek BACCA bhii] nahiiN haNsa

Focus creates alternatives, which can be ranked from low to high scales

\[\begin{array}{ll}
\text{Numbers} & \text{Age-group} \\
\text{Positive} & \{\text{one, two, three…}\} & \{\text{child, teenager, adult}\} \\
\text{Negative} & \{\text{three, two, one}\} & \{\text{adult, teenager, child}\}
\end{array}\]

17b. \textbf{Alt}: \{\text{not(two child laugh)}, \text{not(one child laugh)}\}
   
   \[p = \text{not(one child laugh)}\]
   
   \textbf{Scalarity} = \forall q \text{ in Alt} (p < q)
   
   \textbf{Additivity} = \exists q \in \text{Alt} (\text{true}(q)) \quad \text{compatible with additivity of bhii}

17c. \textbf{Alt}: \{\text{not(one child laugh)}, \text{not(one teenager laugh)}, \text{not(one adult laugh)}\}
   
   \[p = \text{not(one child laugh)}\]
   
   \textbf{Scalarity} = \forall q \text{ in Alt} (p < q)
   
   \textbf{Additivity} = \exists q \in \text{Alt} (\text{true}(q)) \quad \text{compatible with additivity of bhii}

• \textbf{Note}: (17b) is compatible with teenagers/adults laughing, but (17c) is not.
Why not the *also* reading with internal *bhii*?

The particles *bhii* and *hii* associate with focus to the left (Hindi-Urdu fact), which is possible with DP-internal particles. DP-external particles do not involve focus (thanks to Benazir Mumtaz for corroborating phonetic evidence).

The *also*-meaning requires a DP-level associate, so it has to be external.

Concluding Part I

- What I have done is flesh out a footnote in Lahiri (1998:59): “One could argue that *bhii* really means ‘*also*’, the extra implicature being a contribution of focus. I leave that issue open here.”

- One advantage of trying to derive the two meanings *also* and *even* from a single core meaning for *bhii* is that it blocks a kind of unrestricted ambiguity: If *bhii* can have so many meanings, why can’t it have an *only* meaning, for example? On the current view, it is because of the additivity that is part of its core meaning.
II. H-U bhii: also and -ever-Identity Readings

Correlatives: Reconciling uniqueness + additivity

18a. jo kitaab mez par rakhi hai, (vo) bahut moTii hai
Wh book table on kept is that very fat is
“The book (which is) on the table is very fat.”
Very-fat (ιx [book(x) ∧ on-table(x)])

b. “The book on the table, namely War and Peace, is very fat.”
c. “The book on the table, I don’t know which book it is, is very fat.”


19. jo bhii kitaab mez par rakhii hii, (vo) bahut moTii hai
Wh book table on kept is that very fat is
“The book on the table is very fat.” + [bhii]
But: Very-fat (ιx [book(x) ∧ on-table(x)]) ∧
∃y[y ≠ ιx [book(x) ∧ on-table(x)] ∧ y =ιx [book(x) ∧ on-table(x)] ∧
very-fat(y)] contradiction!

• (19) is a contradiction, but (19) only represents reading (18b).
• We need an account of reading (18c) to explain the identity reading of bhii
• The goal is to preserve uniqueness but allow variation at the epistemic
  level (ie satisfy additivity by satisfying ignorance of identity).
II. H-U bhii: also and -ever-Identity Readings

20a. jo bhii kitaab mez par rakhi hai,*yaane ki W&P, (vo) bahut motti hai

b. “The book on the table, namely War and Peace, is very fat.”

c. “The book on the table, I don’t know which book it is, is very fat.”

21d.

∀w’ w <sda w’ ∃y [book(y) ∧ y =w’ ix[book ∧ on-table(w)(x)] ∧ very-fat(y)]

Speaker’s doxastic alternatives: {W&P =w-1 ix[book ∧ on-table(w)(x)], The Idiots =w-2 ix[book ∧ on-table(w)(x)]}

⟦bhii (20a)⟧ = Very-fat (ix [book(x) ∧ on-table(x)])

Felicitous: ∃z ∃y [z ≠ y ∧ 

△ z = ix [book(x) ∧ on-table(x)]

∧ △ y = ix [book(x) ∧ on-table(x)]

• Additivity satisfied via modality cued to identity-alternatives (Dayal 1997)
• The relationship between NPI & FCI has been articulated in (Chierchia 2013) so I don’t discuss it here.
III. H-U Do we even have even in H-U

If Hindi-Urdu *bhii* ≠ English *even*, what is? *tak*?

- What is the relationship between H-U *tak*, H-U *bhii* and English *even*?
- What is the relationship between these lexical exponents and the covert exhaustifier OP-EVEN?

- Analysis by analogy (*bhii* = or ≠ *even*) is a good first step but languages rarely (never?) ‘slice the pie’ in exactly the same ways.
- By studying a range of closely related items across and within languages we can gain some understanding of what is involved in the slicing.

**WARNING**

The data is in this section is very preliminary so use at your own risk!
Covert Operators vs. Overt Operators

22a. Ques  Who left the party?
   b. Ans   Bill left the party  (= only Bill left the party)
              OP-ONLY Bill left the party.
   c.       Only Bill left the party.

23a. Ques  Who read anything?
   b. Ans   *Bill read anything             OP-ONLY does not license any
              (Chierchia 2013, Nicolae 2013)
   c.       Only Bill read anything.

But cf:  *(sirf) anu-ne kisi-ko bhii dekhaa     Hindi-Urdu
         Only Anu    someone-NPI saw

         The H-U version with overt sirf ‘only’ (if that is what it is) doesn’t license NPI.
III. H-U Do we even have *even* in H-U

Negation and Antecedents of Conditionals (DE)

24a. * John watched any game yesterday.
   b. John didn’t watch any game yesterday.
   c. If John watched any game yesterday,
      he would know what I’m talking about.
      [he wouldn’t be ignorant about this].

25a. * Mary left until her birthday.
   b. Mary didn’t leave until her birthday.
   c. * If Mary left until her birthday, she wouldn’t have missed the party.
      [she would have arrived in time].
      *Chierchia 2013:193*

- Strong and weak NPIs are licensed under negation; but only weak NPIs
  are licensed in the antecedents of conditionals.
III. H-U Do we even have *even* in H-U

Additivity of *bhii* in antecedent of conditionals

26a. John will attend. If Mary also attends, we will have the class/we won’t cancel class.

b. anu to aayegii. agar ravi *bhii* aayegaa, to class hogii/ham class nahiiN cancel kareNge

• The additive presupposition of *bhii* projects from the antecedent and must be satisfied in the context. Substituting *John/anu* with *no one/koii nahii* leads to infelicity.
III. H-U Do we even have *even* in H-U

Scalarity of *bhii/tak* in the antecedent of conditionals

Assume a scale where 1 rupee is the lowest endpoint and 1 lakh the highest: 
{one rupee, one hundred rupees, one thousand rupees, one lakh rupees}

27a. agar tum use ek rupyaa *bhii* doge/agar tum-ne use ek rupyaa *bhii* diyaa
to attorney-client privilege sthapit ho jaayegaa
“If you give her even one rupee, attorney-client privilege will be established.

b. agar tum use ek lakh *bhii* doge, to vo yeh kaam nahi karegii.
“If you give her even one lakh rupees, she won’t do this work.”

- In 27a – the least amount will suffice: 
  *If you give Rs. 1 you will have privilege* is less likely than
  *If you give Rs. 1000 you will have privilege.*

- In 27b – the largest possible amount won’t work. 
  *If you give Rs. 100,000 she won’t do it* is less likely than
  *If you give Rs. 1 she won’t do it.*

Local Conclusion: [ek (lakh) N *bhii*] is a reliable weak NPI, like [*even* one]
II. H-U Do we even have even in H-U

28a*agar tum use ek rupyaa tak bhii / ek phuuTii kauri tak bhii doge
*agar tum-ne use ek rupyaa tak bhii diyaa/ ek phuuTii kauri tak bhii dii
to attorney-client privilege sthapit ho jaayegaa
“If you give her even one rupee/if you give her red cent, attorney-client
privilege will be established.”

b. agar tum us-se ek rupyaa tak bhii / ek phuuTii kauri tak bhii loge
agar tum-ne us-se ek rupyaa tak bhii liyaa/ ek phuuTii kauri tak bhii lii
to tum neutral nahiiN samjh e jaaoge
“If you take even one rupee from her/if you take a red cent from her, you
won’t be considered neutral.”

{one rupee, one hundred rupees, one thousand rupees, one lakh rupees}

Local Conclusion:
With a low endpoint associate, negation in the consequent is needed for [ek N
tak bhii], but not when the endpoint is high.
III. H-U Do we even have *even* in H-U

29a. agar tum use ek lakh *tak bhii* doge, to vo yeh kaam nahii karegii.
“If you give her even one lakh rupees, she won’t do this work.”

b. agar tum use ek lakh *tak* doge, to vo yeh kaam nahii karegii.
“If you give her up till one lakh rupees, she won’t do this work.”

- (29a) implies that she won’t do this, no matter how much you give her, even the largest amount: {one rupee….one lakh}
- (29b) says with certainty that she won’t do this for any amount up till one lakh but nothing about higher amounts, one lakh is not the largest amount: {one rupee…one lakh…one crore}

**Local Conclusion:** [ek lakh *tak*] by itself is not an NPI (does not mark an endpoint on the scale) in the antecedent of conditionals but can work with *bhii* to give the *even* meaning.
Back to simple clauses

- But if conditionals tell us that *tak* by itself cannot give an *even* meaning, but only marks the extent reading (deriving from its postpositional meaning perhaps), what are we to make of its role in simple clauses?

29. kal sab log aaye the. ravi *tak* aayaa thaa.
   “Everyone came. Even Ravi came.”

30a. anu-ne ek kitaab *tak* nahiN paRhi
   “Anu didn’t read *even* one book.”

b. ek bacce-*tak*-ko maluum hai ki yeh galat hai
   “*Even* a child knows that this is wrong.”

c. bacce *tak* jaante haiN ki yeh galat baat hai
   “*Even* children know that this is wrong.”

- An interesting discovery, for some of us at least, is that the data in (29)-(30) are not acceptable in all dialects of Hindi-Urdu.

Conclusion on *tak*: Much to be settled empirically but worth the challenge of probing further.
CONCLUSION

- Multiple meanings of bhii, but there seems to be a logical core to all the attested meanings (additivity); one meaning that is ruled out by building in additivity to all its uses is that it predicts the ungrammaticality of *bhii-only.

- Proposal: some (all?) parts tentative

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  OP-ONLY_{exclusive}
  OP-EVEN_{scalarity}  DP  bhii
     additivity-u    FOCUS    additivity-i
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- A theory of X-linguistic variation is compatible with languages differing in details of how the formants of the polarity system are parsed out morphologically. Explanation by analogy is a reasonable and useful first step but it is not a requirement we should impose on ourselves.
THANK YOU!

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