

The Multiple Faces of Hindi-Urdu *bhii*

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ONE *bhii*: MULTIPLE FACES

- 1a. *umaa aayii thii. uske saath anu bhii aayii thii*
Uma had come. Anu had **also** come with her.
- b. *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.
- b. *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.
- b. *anu-ne koi bhii kitaab *(nahiiN) khariidii*
Anu didn't buy **any** book.
- c. *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- \forall/\exists 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 Starting 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)

Some Preliminaries

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)

The Multiple Faces of Hindi-Urdu **bhii**

Analysis:

Option 1: **bhii** is lexically ambiguous

bhii₁ = **also**

bhii₂ = **even**

bhii₃ = **-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.

bhii = W + X = **also**
Y = **even**
Z = **-ever-ID**

and so on

- Lahiri (1998) takes the first option
- This talk pursues the second option: whether X, Y, Z are identical to **also**, **even**, **-ever-ID**, or close enough, is an empirical matter.

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**?

Some Preliminaries

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 \checkmark *tak + bhii*
“Anu didn’t read **even** one book.”
- b.** yehaaN **tak** ki anu-ne [ek **bhii** kitaab] nahiiN paRhii
- c.** ek bacce-**tak**-ko-**bhii** maluum hai ki yeh galat hai *not sure but better than (6b)*
“**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 \checkmark *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**-ko-**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 (\neq the associate) on that scale with the same property.

Additivity:

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

b. * koi nahiiN haNs rahaa hai. **ravi bhii** haNs rahaa hai
* “No one is laughing. Ravi is also laughing.”

I. H-U *bhii*: also and even

Scalarity:

8a. ek **bhii** baccaa nahiiN haNsaa

One kid not laughed

“Not even one kid laughed.”

b. * do **bhii** bacce nahiiN 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)—T

- 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

Scale: numbers

b. p = one kid laughed

Alt = {one kid laughed, two kids laughed...}

p ← q

Scalarity: $\forall q$ in *Alt* [p <_{less-likely} q]
(p is the least likely proposition)

but 2 kids laughed \Rightarrow 1 kid laughed
so p can't be less likely than q.

Result: Ungrammaticality

c. p = one kid didn't laugh

Alt = { ... not(two kids laugh), not(one kid laugh) }

q ← p

Scalarity: $\forall q$ in *Alt* [p <_{ll} q] *Since 2 kids didn't laugh \nRightarrow 1 kid didn't laugh one kid not laughing can be less likely than two kids not laughing. Imagine a context in*

Result: Grammaticality *which no one is supposed to laugh – no kid laughing (ie all kids exercising control) is the least likely proposition.*

Additivity: $\exists q$ in *Alt* [q \neq p \wedge true(q)]

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:

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

& OP-ONLY_{exclusivity} $\lambda p: p(w). \forall q \in \text{Alt} [\text{true}(q) \rightarrow p \subseteq q]$

I. H-U *bhii*: also and even

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

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

- 11a.** anu haNsii. [ravi]-*bhii* haNsaa
laugh(anu) \wedge laugh(ravi) *felicitous: anu satisfies additivity of *bhii**
- b.** anu haNsii. [ek laRkaa]-*bhii* haNsaa
laugh(anu) \wedge $\exists x$ [boy(x) \wedge laugh(x)] *felicitous: anu satisfies additivity of *bhii*
ram, another boy, would not*
- 12.** *anu haNsii. [ravi]-*hii* haNsaa
laugh(anu) \wedge laugh(ravi) *infelicitous: anu violates the exclusivity of *hii*.*

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

The two particles have components of meaning that are compatible/incompatible with covert operators that work on alternative sets:

OP-EVEN_{scalarity & additivity} & OP-ONLY_{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* = OP-EVEN & *sirf* = OP-ONLY

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

$\checkmark tak + bhii$ $*tak + hii$
 $\checkmark sirf + hii$ $*bhii + hii$

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

$*sirf + bhii$

A 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

Getting *even* with Focus

- | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| <p>17a. [EK bhii baccaa] nahiiN haNsaa</p> <p style="padding-left: 2em;">b. [EK baccaa bhii] nahiiN haNsaa</p> <p style="padding-left: 2em;">c. [ek BACCAA bhii] nahiiN haNsaa</p> | <p>Internal <i>bhii</i>; Focus on Numeral</p> <p>Internal <i>bhii</i>; Focus on Numeral</p> <p>Internal <i>bhii</i>; Focus on Noun</p> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|

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

	<i>Numbers</i>	<i>Age-group</i>
<i>Positive</i>	{one, two, three...}	{child, teenager, adult}
<i>Negative</i>	{three, two, one}	{adult, teenager, child}

17b. Alt: {not(two child laugh), not(one child laugh)}

p = not(one child laugh)

Scalarity = $\forall q$ in Alt (p < q)

Additivity = $\exists q \in$ Alt (true(q)) *compatible with additivity of **bhii***

17c. Alt: {not(one child laugh), not(one teenager laugh), not(one adult laugh)}

p = not(one child laugh)

Scalarity = $\forall q$ in Alt (p < q)

Additivity = $\exists q \in$ Alt (true(q)) *compatible with additivity of **bhii***

- *Note:* (17b) is compatible with teenagers/adults laughing, but (17c) is not.

I. H-U *bhii*: *also* and *even*

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 rakhii 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) \wedge 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.”

Dayal (1991, 1995)

19. jo **bhii** kitaab mez par rakhii hai, (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) \wedge on-table(x)]) \wedge

$\exists y[y \neq \iota x$ [book(x) \wedge on-table(x)] $\wedge y = \iota x$ [book(x) \wedge on-table(x)]) \wedge

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 rakhii hai,
(*yaane ki W&P), (vo) bahut moTii hai

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

unavailable

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

available

21d.

$\forall w' w <_{\text{sda}} w' \exists y [\text{book}(y) \wedge y =_w \iota x [\text{book} \wedge \text{on-table}(w)(x)] \wedge \text{very-fat}(y)]$

Speaker’s doxastic alternatives: $\{W\&P =_{w-1} \iota x [\text{book} \wedge \text{on-table}(w)(x)],$

$\text{The Idiots} =_{w-2} \iota x [\text{book} \wedge \text{on-table}(w)(x)]\}$

$\llbracket \text{bhii} (20a) \rrbracket = \text{Very-fat} (\iota x [\text{book}(x) \wedge \text{on-table}(x)])$

Felicitous: $\exists z \exists y [z \neq y \wedge$

$\diamond z = \iota x [\text{book}(x) \wedge \text{on-table}(x)]$

$\wedge \diamond y = \iota x [\text{book}(x) \wedge \text{on-table}(x)]$

- 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.



The data in this section is very preliminary so use at your own risk!

III. H-U Do we even have *even* in H-U

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*
c. Only Bill read anything. (Chierchia 2013, Nicolae 2013)

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/koi 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 nahii 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]

III. 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 samjhe 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.

III. H-U Do we even have *even* in H-U

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** nahiiN paRhii
“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.”

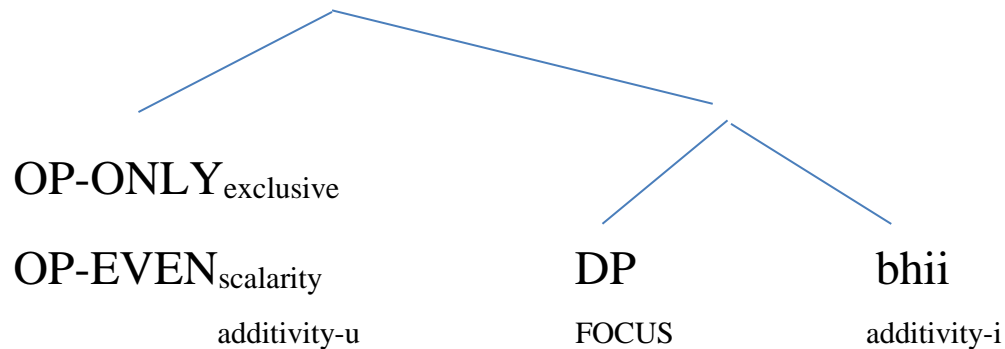
- An interesting discovery, for some of us at least, is that the data in (29)-(30) are not acceptable in all dialects of Hindi-Urdu.

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



- 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.

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