

Non Veridicality of Habitual Context: Analysing the Role of Complex Predicates in NPI Licensing

Vyom Sharma
Indian Institute of Technology, Delhi
vyom18@gmail.com

Abstract

This paper presents a semantic-pragmatic analysis of the habitual aspect as a licensing context for Negative Polarity Items (NPIs). Further, we analyse why complex predicates (V1 + V2) in the habitual aspect form a better licensing context for NPIs than simple predicates. Habitual aspect can license certain NPIs in languages, in spite of being a non-Downward Entailing environment. Giannakidou (2002) argued that Veridicality, instead of Downward-Entailment (DE), should be the primary condition to characterize licensing contexts for NPIs. This paper attempts to further Giannakidou (2002, 2011) argument by proposing a Stalnakerian approach (Stalnaker, 1978) to define habitual aspect as an Iterative Plurational and prove how it is non-veridical. Further we explore how the semantic compositionality of complex predicates makes the habitual context a better licenser for NPIs.

1 NPIs in Indo-Aryan

Penka & Zeijlstra (2010) define Negative Polarity Items (NPIs) as “...*words or expressions that can only occur in contexts that are in some sense negative*”. NPIs are items used to make reference to the fact that they are good in sentences with negation, but often bad without it. For example, in English:

- (1) a. * I saw anybody.
b. I didn't see anybody. (Penka & Zeijlstra, 2010)

In the example above, sentential negation licenses the NPI, meaning it makes the NPI grammatical and interpretable for the discourse. Looking at more examples of NPIs in English as well as other languages, we find that Penka and Zeijlstra's definition covers many more type of NPIs which do not occur only in the presence of morphological negation marker, like examples given below:

- (2) a. John hardly likes *any* cookies.
b. At most three students did *any* homework. (Penka & Zeijlstra, 2010)

Let's look at another NPI 'yet' in English, in the same contexts as 'any':

- (3) a. Chomsky didn't talk about *any* of these facts.
b. No one has talked about *any* of these facts
c. At most three linguists have talked about *any* of these facts.
(4) a. Chomsky didn't talk about these facts *yet*.

- b. No one has talked about these facts *yet*.
- c. * At most three linguists have talked about these facts *yet*.

There are two observations from example 3 and 4. Firstly, an NPI can occur in different type of licensing environments. Secondly, not all NPIs in the same language, or even cross-linguistically, necessarily be licensed in the same type of contexts. Based on the first observation three types of licensing contexts have been identified for NPIs:

- ***Anti-morphic environments***: morphological presence of semantic negation in the sentence (Example 4a).
- ***Anti-additive environments***: presence of an element in a proposition f which expresses that there exists no x : $f(x) \Rightarrow y$ (Example 4b).
- ***Downward Entailing environments***: if a sentence with the semantically “bigger” constituent X necessarily entails the sentence where X is replaced with a semantically “smaller” Y , then X is in a downward entailing environment (Example 4c).

Coming to the second observation, we can clearly deduce a hierarchy of the NPI licensing contexts. Furthermore, we have a typology of NPIs based on the occurrence and licensing of NPIs in the presence and absence of a negative licenser, there are clearly three distinct types of NPIs:

- **Weak NPIs**: allowed to occur in all kinds of downward entailing (or non-veridical) contexts. Example: ‘any’
- **Strong NPIs**: appear in anti-additive contexts. Example: ‘yet’
- **Super strong NPIs**: occur only in anti-morphic constructions. Example: ‘one bit’

Having studied NPIs across languages, both from a synchronic and a diachronic perspective we can narrow down to some important observations. Firstly, NPIs may occur in all kinds of contexts that are in some sense negative (nonveridical, downward entailing, anti-additive or anti-morphic). Secondly, NPIs are different in different languages, and also differ in form and behaviour synchronically and diachronically within the same language in terms of their exact licensing conditions.

In Hindi and other Indo-Aryan languages, we find a class of Negative Polarity Items (NPIs) of the composition ‘Quantifier + *bhii*’, where *bhii* means ‘even’. The resulting NPI is a weak NPI:

- (5) a. Koi e ne av-yo
 Somebody even NEG come-PERF
 ‘Nobody came.’

- b. Kaiya e sora-ne pustak ne mal-i
Some even boy-DAT book NEG get-PERF
'No student got a book.'
- c. Lala kai e ne lav-yo
Lala any even NEG bring-PERF
'Lala didn't bring anything'. (Wagdi)
- (6) a. koi bhii nahiiN aa-yaa
Somebody even NEG come-PERF
'Nobody came.'
- b. maiN-ne kisii bhii ladke ko nahiiN dekh-aa
I-ERG some even boy to NEG see-PERF
'I did not see any boy.'
- c. maiN kabhii dillii nahiiN gayaa
I sometime delhi NEG go-PERF
'I never went to Delhi.' (Hindi)

2 NPI-Licensing In Habitual Context

Habitual aspect can license certain NPIs in languages, in spite of being a non- Downward Entailing environment:

- (7) Sinithos dhiavaze opjodhipote vivlio me megali prosoxi
usually read.3SG FC book with great attention
'S/He usually reads any book very carefully.' (Greek: Giannakidou 2002)

Habitual context can license NPIs in Indo-Aryan as well, but the constructions are only partially felicitous, as seen in following examples:

- (8) a. ? Koi e shimla jae he
Somebody even Shimla come.HAB be.PRS
'Anybody goes to Shimla' (Wagdi)
- b. ? koi bhi videsh jata hai
some even abroad go.HAB be.PRS
'Anybody goes abroad.' (Hindi)

In the light of above examples, habitual context does not seem to license NPIs. In the following sections, we will show how the habitual context is non-veridical, and the special case of complex predicates in Indo-Aryan which make NPIs felicitous in habitual contexts.

3 Strategy Used In Indo-Aryan To Resolve Infelicitousness Of NPIs In Habitual Context

Indo-Aryan languages use a unique strategy to overcome the infelicitousness of NPIs in habitual context, by using complex predicates:

- (9) a. ? koi bhi shimla jata hai.
Somebody even Shimla go.HAB be.PRS
'Anybody goes to Shimla'
- b. ? koi bhi shimla chala jata hai.
Somebody even Shimla walk go.HAB be.PRS
'Anybody goes to Shimla.' (Hindi)
- (10) a. ? koi e shimla jae he
Somebody even Shimla go.HAB be.PRS
'Anybody goes to Shimla'
- b. ? koi e shimla jatu re
Somebody even Shimla go.HAB stay
'Anybody goes to Shimla.' (Wagdi)

These examples show that complex predicates compared with simple predicates make NPIs more felicitous in the habitual context. This shows that the licensing environments for NPIs cannot be as clear cut as weak, strong or super-strong NPIs. We need a better system to explain NPI licensing as a gradient. This may help us to understand how complex predicates increase the felicitousness of NPIs in habitual context and make them better licensors for NPIs.

4 Non-Veridicality And NPI Licensing

Giannakidou (2002) argued that Veridicality, instead of Downward-Entailment (DE), should be the primary condition to characterize licensing contexts for NPIs.

The definition of Veridicality, according to Giannakidou (2006) is as follows:

- i A propositional operator F is veridical iff Fp entails or presupposes that p is true in some individual's model $M(x)$; p is true in $M(x)$, if $M(x) \subset p$.
- ii If (i) is not the case, F is nonveridical.
- iii A nonveridical operator F is antiveridical iff Fp entails not p in some individual's model: iff $M(x) \cap p = \emptyset$.

Giannakidou (2002) proposes that weak NPIs will be licensed in non-veridical environments. Interrogatives, sentences with modals, and unrealised time (future) are thus

non-veridical, as the truth value of a proposition in these cases is undeterminable. Even-type NPIs like *koi bhii* in Hindi are classified as weak NPIs and hence must be licensed in non-veridical environments.

To account for tense and aspect operators as non-veridical environments Giannakidou (2002) uses a modified definition of veridicality to explain habitual aspect as a non-veridical environment as follows:

Let F be a temporal/aspectual operator; t an instant or an interval.

- i F is veridical iff for Fp to be true at a time t , p must be true at a (contextually relevant) time $t' \leq t$. Otherwise F is nonveridical.
- ii A nonveridical operator F is antiveridical iff for Fp to be true at a time t , $\neg p$ must be true at a (contextually relevant) time $t' \leq t$.
- iii If F is true of an interval t , then F is veridical iff for all (contextually relevant) $t' \subseteq t$, p is true at t' . Otherwise, F is nonveridical. If for all (contextually relevant) $t' \subseteq t$, $\neg p$ is true at t' , then F is antiveridical.

Semantically, the non-veridicality of Habitual aspect can be defined as follows:

$$\llbracket \text{HAB } p \rrbracket t = 1 \text{ iff } \text{MOST } t' [t' \in C \wedge t' \leq t, \llbracket p \rrbracket = 1 \text{ at } t']$$

In other words, it is not the case that proposition p is true at all instances of time t' in given time t . Hence, Habitual context is a non-veridical environment.

5 Non-Veridicality Of Habitual Context: Proposed Analysis

We propose a Stalnakerian approach Stalnaker (1978) to define habitual aspect as an Iterative Pluractional¹ and prove how it is non-veridical. Habitual context is possible iterations of an event, which means the proposition can be one out of many possible worlds.

In the Stalnaker model, we assume the possible worlds divided in two parts: W_{PAST} and W'_{PAST} (Figure 1). One set of worlds will be W_{PAST} , worlds where the instance of time $t' > t$, where t is present time. Here we assume that the proposition is true in W_{PAST} . There will be another set of worlds W'_{PAST} , worlds where the instance of time $t' < t$. The worlds in W'_{PAST} will be irrealis in nature, hence they are non-veridical.

¹According to Bruhn (2007), a Pluractional is a 'repeated action over a course of time'. Pluractional can further be of two types (Henderson, 2012):

- i) Repetitive pluractional: Plural repetitions are internal to a single event at a given instance of time.
- ii) Iterative pluractional: Plural repetitions are individuable as separate events at different instances of time

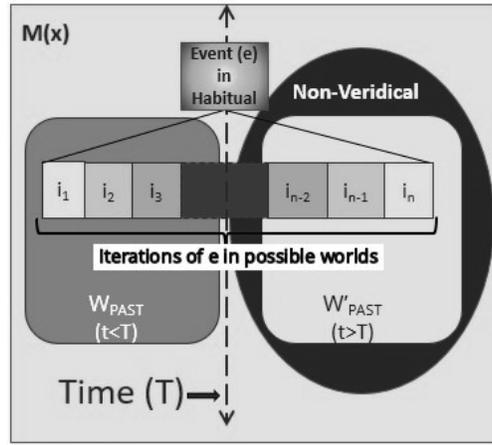


Figure 1

6 Complex Predicates Strategy: Revisited

The complex predicates in example (9b) and (10b) with ‘go’ as light verb above are classified as result-type of predicates (Butt & Ramchand, 2001). The event-compositionality of such complex predicates is represented as follows (Butt & Ramchand, 2001):

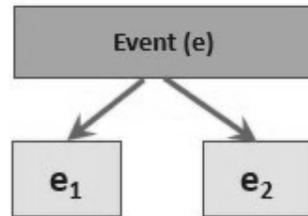


Figure 2

As we saw in the above section, habitual context will be a Iterative Pluractional of one event, and the iterations in W'_{PAST} will be non-veridical. Since the event is now a composition of e_1 and e_2 (Figure 2), the non-veridical iterations will double, as possibilities of both sub-events need to be taken into account. Thus, the increased non-veridicality of complex predicates in habitual context as compared to simple predicates licenses *koi bhii* type NPIs in Indo-Aryan languages.

7 Conclusion

It appears that polarity items cannot be classified in strict categories of strong or weak, but would range across a spectrum of licensing environments, some being more non-veridical than others. *koi bhii*, for example, is an NPI which is not licensed in the habitual

aspect. Thus, Indo-Aryan languages use the event-compositionality of complex predicates to increase the non-veridicality of the environment.

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