

Derived Ignorance Effects with Bengali Epistemic Indefinites

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Overview: Epistemic indefinites (EIs) signify an ignorance on the part of the speaker (usually) about the witness of the existential claim (Kratzer and Shimoyama 2002, Alonso-Ovalle and Menéndez-Benito 2003, 2010, a.m.o.). We term this effect as *pure ignorance*, given that in all reported cases of EIs, the speaker has never known what the witness of the claim is. In this work, we report on a novel effect in Bengali – that of *forgetting* the witness of the existential, i.e. it was known/familiar at some point, but not any more. This effect we term as *derived ignorance*, and show that Bengali EIs combine with a particle to signal derived ignorance. Derived ignorance will be shown to be distinct from the effects of partial variation or ignorance and free choice effects found cross-linguistically with EIs. Overall, this work probes the question of what counts as ‘knowing’, and presents a formal proposal of how the effect of past-knowledge/familiarity-but-current-ignorance (i.e. forgetting) can be synthesized within current theories of EIs.

The phenomenon: The EI in (1), in brackets, shows pure ignorance, while the addition of the particle *jyano* (2) to the DP containing the EI immediately signals derived ignorance:

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| <p>(1) [Kon ek-ta] chele gailo.
 WH one-CL boy sang
 ‘Some boy sang.’
 <u>Pure ignorance:</u> the speaker doesn’t
 know which boy</p> | <p>(2) [Kon ek-ta] chele jyano gailo.
 WH one-CL boy JYANO sang
 ‘Some boy sang.’ (closest translation)
 <u>Derived ignorance:</u> the speaker knew in
 the past which boy, but can’t recall now</p> |
|---|---|

This derived ignorance effect with the EI-N-*jyano* complex [in brackets below] is distinct from pure ignorance (3), projects from under negation (4), is not cancellable (5), is not a free choice effect (6), is compatible with both total or partial variation (7).

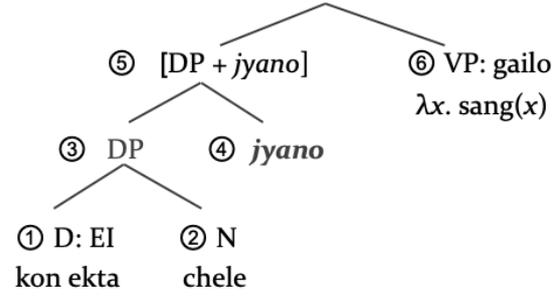
- (3) Mina-ke [kon ekta daktar-ke **jyano**] biye korte hobe, #ami jani-na kake
 Mina-DAT WH one dr.-DAT JYANO wedding do.IMPV has-to, #I know-NEG who,
 /✓amar mon-e nei kake.
 /✓my mind-LOC NEG who
 ‘Mina has to marry some doctor, # I don’t know who / ✓ I cannot remember who.’
- (4) Rahul nijer bibhage e [kake **jyano**] pochondo kore-na.
 Rahul own department in WH JYANO like do-NEG
 ‘Rahul does not like someone in his department (and I used to be familiar with who that is but now have forgotten).’ **Unavailable:** ‘It is not the case that I have forgotten who Rahul likes in his department.’
- (5) Mina chabi-ta [kothay ekta **jyano**] rakhlo. #Ashole ami jani kothay rekheche!
 Mina key-CL WH one JYANO put. #actually I know where put.PRF
 ‘Mina put the keys somewhere (and I cannot recall where).# Actually, I know where!’
- (6) Mina-ke porashona-r [kon ekta bishoy **jyano**] bachte hobe.
 Mina-DAT study-GEN WH one subject JYANO pick.IMPV has-to
 ‘Mina has to pick some subject of study (and I cannot recall what that is).’
Unavailable: ‘Mina has to pick a subject (and *any* subject is a viable option).’
- (7) Context (a): S & J are playing hide-&-seek; J knows S is hiding in the house and that he is not in the bedrooms or bathrooms, but could be in any of the other rooms. So not all possibilities are live (partial variation). Context (b): Same context of hide-&-seek, but now J does not rule out any possibilities (total variation). J says to his friend:
 S [kon ekta ghor-e **jyano**] lukolo. (✓ in contexts (a),(b) with derived ignorance only)
 S WH one room-LOC JYANO hid
 ‘S hid in some room (and I have forgotten which one).’ (in both contexts)

This cluster of properties makes the derived ignorance effect not easily subsumable under any of the standard approaches to EIs. The lack of a free choice reading and insensitivity to total vs. partial variation signals that the EI-*jyano* complex is not a domain widener (unlike Germanic & Romance EIs). Derived ignorance is also not sensitive to different methods of identification, and thus a domain shifting account (Aloni and Port 2015) is not applicable here. **The question** then

becomes: how do we formally integrate the ignorance component of an EI with the knowledge component of *gyano*, i.e. what is the semantics of a complex expression of which one unit blocks knowledge and the other supports its presence (at a past time, amenable to retrieval)?

Analysis: The answer, we propose, lies in analyzing *gyano* as a restrictor of the EI along an added temporal dimension. Crucially, we argue that the modal variation component in the meaning of the EI (which is the basis of the ignorance effect; AO-MB 2010) has to instead be modal *and temporal variation* (MTV), which then interacts with the presupposition of *gyano*, resulting in a restriction of world-time pairs in the epistemic alternatives of the speaker (forming the derived ignorance/forgetting effect). The projection and non-cancellability facts above support *gyano* encoding a presupposition, as opposed to an implicature or entailment.

Example (2) is represented in the tree, which is used to show each step of the computation (8). Assumed semantic components include: **Epist**_{sp}<*w*,*t*>, a set of world-time pairs epistemically accessible to the speaker from the world of evaluation *w* and speech time *t* (denoted as *t*_{ST}); a temporal precedence relation < where *t*' < *t*_{ST} denotes *t*' is an interval preceding *t*. Predicates are relativized to world-



time pairs, denoted by subscripts. *Gyano* places a **direct restriction** on epistemically accessible time intervals, anchoring the assertion to ST & the presupposition to a time preceding ST.

- (8) a. ①^{w,t} = Assertion: $\lambda P_{\langle w,t \rangle} \lambda Q_{\langle w,t \rangle} \exists x [\lambda P_{\langle w,t \rangle}(x) \ \& \ \lambda Q_{\langle w,t \rangle}(x)]$
 MTV presupp.: $\exists \langle w',t' \rangle, \langle w'',t'' \rangle \in \text{Epist}_{sp} \langle w,t \rangle [\{x : P_{\langle w',t' \rangle}(x) \ \& \ Q_{\langle w',t' \rangle}(x)\} \neq \{x : P_{\langle w'',t'' \rangle}(x) \ \& \ Q_{\langle w'',t'' \rangle}(x)\}]$ (temporal accessibility unrestricted)
- b. ②^{w,t} = $\lambda x. \text{boy}_{\langle w,t \rangle}(x)$
- c. ③^{w,t} = Assertion: $\lambda Q_{\langle w,t \rangle} \exists x [\text{boy}_{\langle w,t \rangle}(x) \ \& \ Q_{\langle w,t \rangle}(x)]$
 Presupp.: $\exists \langle w',t' \rangle, \langle w'',t'' \rangle \in \text{Epist}_{sp} \langle w,t \rangle [\{x : \text{boy}_{\langle w',t' \rangle}(x) \ \& \ Q_{\langle w',t' \rangle}(x)\} \neq \{x : \text{boy}_{\langle w'',t'' \rangle}(x) \ \& \ Q_{\langle w'',t'' \rangle}(x)\}]$ (temporal accessibility unrestricted)
- d. ④/*gyano*^{w,t} = Assert.: $\lambda R_{\langle et,t \rangle} \lambda Q_{\langle et \rangle} \cdot R(Q) \wedge \neg \exists \langle w',t_{ST} \rangle \in \text{Epist}_{sp} \langle w,t \rangle [R_{\langle w',t_{ST} \rangle}(Q)=1]$ Presupp.: $\exists \langle w',t' \rangle \in \text{Epist}_{sp} \langle w,t \rangle [\{x : \text{boy}_{\langle w',t' \rangle}(x) \ \& \ Q_{\langle w',t' \rangle}(x)\}]$, **where** $t' < t_{ST}$ (temporal accessibility restricted)
 (Apart from adopting the existential claim, *gyano*'s assertive meaning signals the lack of knowledge about the witness of the existential DP *at speech time*, while the presupposition signals at least one epistemically accessible world-time pair anchored to *an interval before speech time* where the speaker knew the identity of the referent. Taken together, the result is derived ignorance.)
- e. ⑤^{w,t} = Assertion: $\lambda Q_{\langle w,t \rangle} \exists x [\text{boy}_{\langle w,t \rangle}(x) \ \& \ Q_{\langle w,t \rangle}(x)] \wedge \neg \exists \langle w',t_{ST} \rangle \in \text{Epist}_{sp} \langle w,t \rangle [\lambda Q_{\langle w',t_{ST} \rangle} \exists x. \text{boy}_{\langle w',t_{ST} \rangle}(x) \ \& \ Q_{\langle w',t_{ST} \rangle}(x)]$
EI-N + derived ignorance combined presupp.:
 $\exists \langle w',t'' \rangle, \langle w'',t''' \rangle \in \text{Epist}_{sp} \langle w,t \rangle [\{x : P_{\langle w',t'' \rangle}(x) \ \& \ Q_{\langle w',t'' \rangle}(x)\} \neq \{x : P_{\langle w'',t''' \rangle}(x) \ \& \ Q_{\langle w'',t''' \rangle}(x)\}] \wedge \exists \langle w',t' \rangle \in \text{Epist}_{sp} \langle w,t \rangle [\{x : \text{boy}_{\langle w',t' \rangle}(x) \ \& \ Q_{\langle w',t' \rangle}(x)\}]$, **where** $t' < t_{ST}$, $t'' = t_{ST}$, $t''' = t_{ST}$

Thus, EIs encode both modal and temporal variation, and the addition of *gyano* restricts temporal accessibility such that ignorance at speech time but knowledge at past time is signaled together. Insofar as EIs can be modified by such particles, this two-dimensional variation can be applied cross-linguistically. **Outlook:** South Asian EIs have received sparse attention. Slade (2015) noted that Sinhala EIs rule out specific identification methods, while Balusu (2018) noted that Telugu EIs are anti-licensed by recognition. Taken together with the Bengali facts, South Asian EIs raise interesting typological questions within the spectrum of distinctions in knowledge/ignorance that languages encode, especially in comparison with distinct knowledge types in Slovak, Romanian EIs, for example (Richtarcikova 2013, Farkas 2002, Falaus 2009).

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