Evidentials come in two shapes **Diti Bhadra, *Rutgers University***

Goal: Interrogative Flip (IF) is the phenomenon whereby an evidential (that is anchored to the *speaker* in a declarative) obligatorily shifts to the *addressee* in a polar question (PQ). This paper argues that based on a crucial semantic difference, there are *two classes* of evidentials: (i) Type 1 - trigger IF; (ii) Type 2 - do not trigger IF. This contrast is illustrated below with Cheyenne *sėste* (Type 1) and Bangla *naki* (Type 2):

(1)	a.	É-némene-**sėste** Floyd. 3-sing-REP Floyd 'Floyd sang, (**I hear**).'	b.	**Mó**=é-némene-**sėste** Floyd? Q=3-sing-REP Floyd '(**Given what you heard**), did Floyd sing?'	(Murray '10: 7-8)
(2)	a.	Floyd **naki** geye-chilo. Floyd REP sang '(**I hear**) Floyd sang.'	b.	Floyd **naki** geyechilo? Floyd REP sang '(**I hear**) Floyd sang (is it true)?'	

In the PQ in (2b), the evidential still remains anchored to the speaker. I will argue that the locus of difference between (1b) & (2b) lies in the following fact: Type 2 evidentials license an operator ↑ which blocks IF, while Type 1 evidentials do not. I introduce a dynamic pragmatic framework, followed by my proposal.

A Dynamic Pragmatics framework: I will adopt Malamud & Stephenson ('15)'s idea (based on Farkas & Bruce '10) of a dynamic scoreboard consisting of (among other components) DC_X, DC_X*, where DC_X is X's **actual** and DC_X* her **projected** (tentative) commitments. I also adopt Gunlogson's ('08) distinction of **Independent** vs. **Dependent** sourcehood (if an agent acquired ψ themselves, they are an Independent source; if an agent is dependent on another agent's testimony for ψ, they are a Dependent source). Extending this distinction to evidentiality, I add the notion of *involvement*: an agent is involved if she has a personal engagement with the validity of ϕ. An *uninvolved* source merely *presents* (cf. Faller '02) ψ. Thus, two new sets can be added to the scoreboard to capture these nuanced distinctions:

(3) a. ***IIss***$_\chi$: Independent Involved ss = {p: all **commitments** of agent χ in discourse d for which agent χ does not depend on another agent's testimony in d}

b. ***IUss***$_\chi$: Independent Uninvolved ss = {p: all propositions **presented** by agent χ in discourse d for which agent χ does not depend on another agent's testimony in d}

Upshot: **Direct/Inferential evidentials update IIss**$_{SPKR}$ **while Reportative evidentials update IUss**$_{SPKR}$.

Proposal: Davis ('09) formalizes the idea that intonational contours are distinct from *intonation morphemes* (↑ and ↓) (cf. Bartels '97). The latter are operators which are licensed by specific particles and have actual semantic denotations (functions with *context change potentials* (CCPs)). I define them as follows:

(4) a. $[\![\uparrow]\!] = \lambda q\ \lambda C\ (DC_{SPKR*}(C) + q)$ type:<<s,t>,<C,C>>

b. $[\![\downarrow]\!] = \lambda q\ \lambda C\ (DC_{SPKR}(C) + q)$ type:<<s,t>,<C,C>>

↑ takes the input context and returns a context in which the speaker's **projected** commitment set has ψ; ↓ is an similar function except an **actual** commitment set is updated with ψ. I assume the following lexical entry for *naki*, where *naki* as a function that takes a proposition and a *judge* argument (cf. Lasersohn '05, Stephenson '07) and ∃ quantifies over the judge's *epistemic alternatives* (cf. Lewis '79, Chierchia et al. '89).

(5) $[\![naki]\!]^{c,w,j} = \lambda p\ \lambda z\ \lambda w\ \exists\ <w', x> \in \text{Epist}_{w,z}$: $p\ (w')(x)$

In a reportative usage like (2), the judge is a third party, i.e. the reporter, whose epistemic alternatives contain ψ; in an inferential case, the judge would be the speaker herself.

Type 2 evidentials like *naki* obligatorily license the operators in (4) (cf. Davis '09 for a similar claim about the Japanese particle *yo*), i.e. **(2a) is *naki* + ↓; (2b) is *naki* + ↑**. Crucially then, **(2b) is not a real PQ**, but actually a Type 2 evidential + the ↑ operator, resulting in the meaning in (6c). (6c) says: the speaker of (2b) is making a tentative claim that *Floyd sang* exists in the epistemic alternatives of a third party source.

(6) a. $\lambda w \exists$ <w',x> $\in$ Epist$_{w,REPORTER}$: Floyd sang at *w'* after *naki* applies to ψ
b. $\lambda q_{<st>}$ $\lambda C_{<C,C>}$ (DC$_{SPKR*}$(C) + *q*) def. of ↑; applies to (6a):-
c. $\Rightarrow$ λ***C*** **[DC$_{SPKR*}$(C) + λ*w* $\exists$ <*w'*,*x*> $\in$ Epist$_{w,REPORTER}$: Floyd at *w'*]**

***Naki*-q.s are teamwork - the evidential updates a source set; ↑ updates a projected commitment set**.

What about Cheyenne?: In the Cheyenne construction with IF (1b), an overt Q-operator is present. I adopt Biezma & Rawlins' ('12: 53) definition of the Q-operator (cf. Bolinger '78, Gawron '01, Farkas & Bruce '10, a.o. for similar singleton-set approaches), as shown in (7). The *addressee* is expected to choose between the mentioned alternative (the question nucleus) and other inferable Salient Alternatives. This makes the speaker a **Dependent source** whenever Q is present, because she depends on the addressee to choose one of the salient alternatives, who is considered an Independent source for the information.

(7) $[\![[_{[Q]}\alpha]]\!]^c = [\![\alpha]\!]^c$ defined iff $[\![\alpha]\!]^c \subseteq$ SalientAlts(*c*) or SalientAlts(*c*) = $\varnothing$ & $|[\![\alpha]\!]^c \cup$ SalientAlts(*c*)| > 1.

Type 1 evidentials like the Cheyenne *sėste* co-occur with this Q-operator while Type 2 evidentials are incompatible with such PQ markers, as shown in (8b) with the Bangla Q morpheme *ki*.

(8) a.	Floyd gaan geyechilo **ki**?	b. * Floyd **naki** gaan geyechilo **ki**?
	Floyd song sang POL	Floyd REP song sang POL
	'Did Floyd sing?'	'Did Floyd sing (as I hear)?'

The ↑ operator and the Q operator thus have a fundamental difference:

(9) a. The Q operator in all languages adds ψ to the tentative commitment set of the **addressee** - DC$_{ADDR*}$.
b. The ↑ (as seen in 4a) adds ψ to the tentative commitment set of the **speaker** - DC$_{SPKR*}$.

An evidential in the scope of Q would also update a dependent set, for eg. IIss$_{ADDR*}$. **This results in IF**. Strong support for the claim that the evidential is anchored to the addressee comes from the fact that the answer to a question with IF (ex. (1b)) *has* to contain the same evidential (Murray '10: 6.2). Thus, the presence of ↑ blocks IF while Q facilitates IF, giving us the **two classes of evidentials** as stated above.

Prediction I: Bias: Given that Type 2 evidentials always remain anchored to the speaker, i.e. the ↑ always adds to DC$_{SPKR*}$, this analysis predicts that all 'interrogatives' with Type 2 evidentials should be *biased questions*. This prediction is borne out. *All naki-questions are biased questions*. *Naki* questions are infelicitous in any neutral context (10b), where the speaker has no grounds for expecting the prejacent to be more likely than its counterpart, while regular PQs can are felicitous (10a) (cf. Buring & Gunlogson '01):

(10) *John has been sitting in a windowless room all alone for hours. When Mary enters, John asks her*:

a. Baire brishti porche **ki**?	b. # Baire **naki** brishti porche ↑
outside rain falling POL	outside REP rain falling
'Is it raining outside?'	'(I heard) it's raining outside (is it true)?'

Prediction II: NPI licensing: The analysis presented here claims that Type 2 evidentials license ↑ but are incompatible with Q. That predicts that such ↑ contructions should not be able to license NPIs. The following contrast shows that this prediction is borne out. Only the question with Q (*ki*) can license the NPI; the question with ↑ (11b) cannot. ↑ questions are still information-seeking speech acts, but they are not PQs.

(11) a.	Floyd **ektao** gaan geyechilo **ki**?	b. * Floyd **naki ektao** gaan geyechilo ↑
	Floyd any song sang POL	Floyd REP any song sang?
	'Did Floyd sing any song?'	'Did Floyd sing any song (as I hear)?'

This abstract tied the presence of the robustly attested phenomenon of IF to a *semantic* trigger, placing the crucial locus on the licensing abilities of the evidential itself. Apart from capturing cross-linguistic variation, this approach also forges novel connections between evidentiality, questions, Interrogative Flip and bias.

Sel. References: Biezma & Rawlins (’12). Responding to alternative & polar questions. • Davis (’09). Decisions, dynamics & the Japanese *yo*. • Murray (’10). Evidentiality & the structure of speech acts.