The third reading of indefinites in attitude reports is one where the indefinite quantifier takes scope under the attitude verb, but where quantifier’s NP restrictor is not evaluated with respect to the worlds that the verb quantifies over. Given the narrow scope of the quantifier, approaches to third readings have tended to focus on the NP predicate—e.g. combining it with a non-locally bound world variable (Percus 2000) or replacing it outright (Schwager 2010)—while leaving the quantifier itself under the attitude verb. An alternative approach floated by von Fintel and Heim (2011) makes the opposite move: the quantifier raises into the matrix clause but undergoes semantic reconstruction, lowering its scope while leaving its NP restrictor to be evaluated “high”, i.e. independently of the modal quantification. This is shown in (2).

1. Mary hopes that a friend of mine will win the race.
2. 3rd reading LF: $\lambda w \ [a\ friend_{w}\ of\ mine] \ \lambda Q_{(e,t)} [\ Mary\ hopes_{w} [\ that\ \lambda w' t_{Q} \ will\ win_{w'} the\ race_{w'}]]$

In this paper we argue that semantic scope lowering of this general type indeed corresponds to a natural language strategy. In Tiwa (Tibeto-Burman), third readings are possible in certain structures that feature a quantifier base-generated in the matrix clause. While this base generation site can explain why the NP restrictor is interpreted high, the low scope of the quantifier itself calls for a semantic lowering strategy.

**Prolepsis in Tiwa.** Prolepsis is a sentence type in which an embedding verb takes a base-generated object, which is semantically related to a predicate of the embedded clause (see Salzmann 2017). Prolepsis in Tiwa is shown in (3). The proleptic object, Mukton-go, behaves as a matrix object for case marking (viz accusative) and word order. Tiwa does not allow discontinuous CPs, nor does it allow accusative subjects. Note that (3) becomes ungrammatical if Mukton-go is placed postverbally (whether or not it replaces pe).

3. **Sonali Mukton-goₗₗ si-ga [CP peₗₗ lí-ga honmandé ]**
   **Sonali Mukton-ACC know-PFV 3SG go-PFV COMP**
   ‘Sonali knows that Mukton left.’ [field notes 2017.1.56]

Evidence that the proleptic object is base-generated in the matrix comes from several sources. First, the possibility of an overt pronoun (here pe) is significant, as Tiwa does not allow resumption of movement dependencies. (In German, too, prolepsis “chains” but not movement chains feature an overt pronoun [Salzmann 2017]. Tiwa is different from German in generally permitting null pronouns; pro-drop is grammatical in (3).) Second, the relationship between the proleptic object and the embedded pronoun is island-insensitive. Prolepsis is possible in the following type of Tiwa sentence, where a movement analysis would violate the coordinate structure constraint: Lastoi Monbor, ACC thinks, hei, and Milton love Sonali. Relatedly, the embedded pronoun is not required to occupy any particular syntactic position (e.g. subject position); e.g. prolepsis is also possible in **Sonali Lastoi, ACC thinks, Mukton saw her**, This is unlike raising to object.

**Proleptic objects allow low-scope readings.** The high base-generation site of proleptic objects means that quantificational proleptic objects are never in the syntactic scope of the attitude verb at LF (assuming, as per standard, that there is no syntactic lowering). These objects nevertheless may take scope under the attitude verb semantically. Consider the following context: Lastoi looks after a pair of identical twins, Sonali and Saldi, whom she cannot tell apart. One day, one of the twins decides to play a mean trick on Lastoi and hides under the bed instead of playing in the garden. Lastoi gets frightened because she thinks one of the twins is missing, but she can’t tell which one. Lastoi is scared, we report, because:

4. **Pe [DP sáning-e majo sája korkhyá-gô] athkhál lái-do [CP proₗₗ, kumái lí-ga honmandé ]**
   **3SG [two-GEN midst one child-ACC] think-PFV [3SG disappear AUX-PFV COMP]**
   ‘She thinks that from among the two a child has disappeared.’ [field notes 2017.2.8]

For (5), the context is simply that mosquitoes are usually outside. (This example shows optional CP fronting.)

5. **[CP Payaro na-gaido, proₗₗ, proₗₗ, chi-w honmandé ] proₗₗ [DP khodo-goi] athkhál lái-do.**
   **[outside go-COND 3PL 1SG bite-NEUT COMP] 1SG [mosquito-ACC] think-PFV**
   ‘I think that if I go outside, a mosquito will bite me.’ [field notes 2017.2.9]
Note that neither case features wide scope $\exists$: there is explicitly no particular twin to whom Lastoi can ascribe disappearance, and in a real-world context there is no particular single mosquito whose bites one fears.

**Proleptic objects disallow opaque readings.** In contrast to merely low-scope readings, true *de dicto* readings of proleptic objects are forbidden. Consider the following context: My neighbor comes to help me unload some heavy boxes. A village newcomer sees him helping me, and thinks he must be my older brother. Actually, though, I don’t have an older brother. This scenario can be described using a non-proleptic structure – *that woman thinks [CP my brother me.ACC helps]* – but not using prolepsis:

\[(6) \text{Ái kháí cha, thêbo…} \ # \ \text{pe margí [DP ái kháí-gôî] atkhâl lái-do [proî my brother exist.DEN but] that woman [my brother-ACC] think-IPFV 3SG anggô ráp os-ga honmandé } \]

me.ACC help AUX-IPFV COMP

Intended: ‘I don’t have a brother, but that woman thinks my brother is helping me.’ [f.n. 2017.2.8]

Likewise, (5) is felicitous in a scenario in which the government has eradicated all mosquitoes. (Again, a non-proleptic structure must be used instead.) Thus the embedded-like behavior of proleptic objects is only partial: the quantificational portion may take low scope, but the NP restrictor must be interpreted high. In consequence, (4)-(5) must be treated as 3rd readings. Opacity, as in a pure *de dicto* reading, is ruled out.

**Proleptic objects allow high-scope (classic *de re*) readings.** Finally, we note that quantificational proleptic objects may take widest scope, yielding a classic *de re* reading. Suppose Mukton, at an outdoor gathering, leaves his rice on one table and then he sees a dog come up to it. He looks away, and when he looks back, the rice is gone. Naturally, he suspects the particular dog he has just seen. A proleptic report is appropriate:

\[(7) \text{Mukton [DP khùgri-gôî] atkhâl lá-ga [CP proî pe-ne mai-go chá-ga honmandé.]} \]

Mukton dog-ACC think-IPFV 3SG 3SG-GEN rice-ACC eat-IPFV COMP

‘Mukton thinks a dog ate his rice.’ [field notes 2017.2.8]

**Analysis.** We propose that the embedded CP in prolepsis hosts a binding operator that binds an embedded pronoun. On the classic *de re* reading, as in (7), this operator binds a type $e$ pronoun, returning an intensional property of individuals (cp. Chierchia 1989). Proleptic attitude verbs may compose with CPs of this type and then with a matrix object. When quantificational, the object QRSs inside the matrix clause, (8).

\[(8) \lambda w [ \text{a dog}_w\text{-ACC} ] 2 [ \text{Mukton}_{t2} \text{thinks}_{w} [ \text{OP} \lambda w' \text{it}_{1} \text{ate}_{w'} \text{his food} ] ] \]

\[(9) \text{[\text{atkhâl lái-do ‘think}_{\text{pro}_{1}\text{}}’]} = \lambda P \in D_{(e,t),st}. \lambda y. \lambda x. \lambda w. \forall w' \in \text{DOX}(x, w) : P(y)(w') = 1 \]

\[(10) \text{[\{8\}] = \lambda w. \exists x [ \text{x is a dog in w} & \forall w' \in \text{DOX}(\text{Mukton}, w) : x \text{ eats M’s food in w’}].} \]

Parallel to the high-typed trace in (2), we propose that the embedded pronoun may alternatively be GQ type, and thus that the binding operator may yield an intensional property of quantifiers. ‘Think’ and ‘know’ in Tiwa are ambiguous between denotations like (9) and (12). The higher-typed proleptic version of an attitude verb, e.g. (12), composes with a quantificational DP object in its base position. The result is scope lowering, but transparent interpretation – a third reading. This is shown below for context (4):

\[(11) \lambda w [ \text{Lastoi [a child}_w\text{-ACC} ] \text{thinks}_{w} [ \text{OP} \lambda w' \text{she}_{1} \text{is missing}_{w'} ]).] \]

\[(12) \text{[\text{atkhâl lái-do ‘think}_{\text{pro}_{1}\text{}}’]} = \lambda P \in D_{(e,t),st}. \lambda P \in D_{(e,t),st}. \lambda x. \lambda w. \forall w' \in \text{DOX}(x, w) : P(\lambda R)(w') = 1 \]

\[(13) \text{[\{11\}] = \lambda w. \forall w' \in \text{DOX}(\text{Lastoi}, w) : \exists x [ \text{x is a child in w} & \text{x is missing in w’}].} \]

**Conclusions.** We conclude that semantic scope lowering is a possible route to 3rd readings, required in at least some cases. Our Tiwa data (from original fieldwork) demonstrate that quantifiers in certain contexts may be interpreted lower than their base positions – but world arguments within NP may not. This suggests that semantic reconstruction and related mechanisms are restricted to binding of $\langle e, t \rangle$ traces/pronouns, rather than intensionalised versions thereof.