

## Compositional paths to *de re*\*

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**Abstract** I argue that attitude reports *de re* arise compositionally via two distinct LF mechanisms. One mechanism allows the *res* to remain inside the embedded clause syntactically, and does not treat the *res* as an argument of the attitude verb semantically (Percus & Sauerland 2003, Ninan 2012). The other involves the *res* semantically serving as an argument of the attitude verb, and syntactically occupying a distinctive *res* position external to the embedded clause (Heim 1994). I show that both LF mechanisms are made use of by a single natural language, Nez Perce, and that Nez Perce allows the distinctive *res* position to be filled by covert movement (*res*-movement) or by base-generation.

**Keywords:** attitude reports, *de re*, *res* movement, concept generators, prolepsis, covert movement, syntax-semantics interface, semantic fieldwork, semantic variation

### 1 *De re* vs. *de dicto*

Attitude reports *de dicto* involve a relation (at a world) between an individual and a proposition, where the proposition characterizes the individual’s beliefs, or desires, or memories, and so on. On the classic analysis from Hintikka (1969), the role of a verb like *believe* is to indicate that the worlds in the proposition (conceiving of this as a set of worlds) form a superset of those compatible with what the believer believes, i.e. her (doxastic) alternatives. Thus for a sentence like (1) we may provide the propositional meaning in (2).<sup>1</sup>

- (1) Mary believes that the star of ‘Black Swan’ is a famous actress.  
(2)  $\lambda w. \forall w' \in DOX_w(Mary)[the\ star\ of\ 'B.S.'\ in\ w'\ is\ a\ famous\ actress\ in\ w']$

From a compositional perspective, this analysis is straightforward. The structure of (1) provides *believe* with two syntactic arguments – the CP *that the star of ‘Black*

\* I would like to thank my Nez Perce teachers Florene Davis and Bessie Scott for their patient help, and Seth Cable, Ivano Caponigro, Gennaro Chierchia, Itamar Francez, Danny Fox, Irene Heim, Sarah Murray, David Pesetsky, Norvin Richards, Roger Schwarzschild, Yael Sharvit, Will Starr, and (other) audience members at SALT 28, NELS 47, UC Berkeley, UC Irvine, MIT, and Chicago.

<sup>1</sup> Here and following, for all individuals *a* and worlds *w*, let  $DOX_w(a)$  be the set of worlds compatible with what *a* believes in *w* (i.e. *a*’s doxastic alternatives in *w*).

*Swan* is a famous actress and the DP *Mary*. Let us suppose for simplicity that the latter is directly referential. As for the CP, it expresses a proposition, (3a), which provides the first argument to the verb denotation, (3b).

- (3) a.  $\llbracket \text{that the star of 'Black Swan' is a famous actress} \rrbracket =$   
 $\lambda w. \text{the star of 'Black Swan' in } w \text{ is a famous actress in } w$   
 b.  $\llbracket \text{believe}_{de\ dicto} \rrbracket = \lambda p. \lambda y. \lambda w. \forall w' \in DOX_w(y) [p_{w'}]$

Attitude reports *de re* involve more complexity. Consider, for instance, the analysis of (1) on a reading where *the star of 'Black Swan'* is read *de re*. (How to recognize this reading? It is one where *Mary* need not assent to the sentence *The star of 'Black Swan' is a famous actress*; in fact, she need not ever have heard of this movie or be aware of who stars in it. Given that the star of 'Black Swan' is in fact *Natalie Portman*, *Mary* need only believe that *Portman* is a famous actress. When we reason from *Mary believes that Portman is a famous actress* to *Mary believes the star of 'Black Swan' is a famous actress*, our reasoning depends on the *de re* interpretation of the embedded subject in both cases.) A simple variant of the analysis just given, but with wide scope for the DP *the star of 'Black Swan'*, will not suffice to capture the semantic properties of this reading (Quine 1956). Suppose, for instance, we posit an LF wherein this DP moves into the matrix clause, as in (4a), yielding the overall sentence meaning in (4b) (identical to (2b) but for the world variable associated to the *res* DP *the star of 'Black Swan'*):

- (4) a. Wide-scope LF:  
 $\llbracket \text{the star of 'Black Swan' } \rrbracket \lambda x_1 \text{ Mary believes } [x_1 \text{ is a famous actress}].$   
 b.  $\lambda w. \forall w' \in DOX_w(\text{Mary}). \text{the star of 'B.S.' in } w \text{ is a famous actress in } w'$

The shortcoming of this analysis lies in its failure to account for cases of 'double vision' (Klein 1979), i.e. instances in which an attitude holder thinks of a *res* in multiple, potentially incompatible ways. Here let us note that the DP *the star of 'Black Swan'* denotes (in our world) the same individual as do the names *Natalie Portman* and *Natalie Herschlag*. Yet our friend *Mary* may think of this one individual in different ways under various different guises. Suppose, for instance, that under the guise 'person named *Natalie Portman*', *Mary* thinks *de re* of the actual star of 'Black Swan' that she is a famous actress. This does not exclude that, under the guise 'person named *Natalie Herschlag*', *Mary* also thinks *de re* of the actual star of 'Black Swan' that she *not* is a famous actress. (Perhaps *Mary* thinks of *Herschlag* as an unproductive psychology researcher.) The upshot? There is no simple fact of the matter concerning whether *Mary* thinks *de re* that the star of 'Black Swan' is a famous actress. It matters how *Mary* thinks of that individual.

Doing justice to this conclusion seems to require adopting an analysis of *de re* truth conditions that features descriptions or similar technology (e.g. modes of presentation, acquaintance relations, guises, vivid names). In the spirit of Kaplan (1968), Lewis (1979), and much following work, an analysis of (1) on its *de re* reading may be given as in (5):<sup>2</sup>

- (5)  $\lambda w.f(w) = \text{the star of 'Black Swan' in } w \wedge \text{Suitable}_w(f, \text{Mary})$   
 $\wedge \forall w' \in \text{DOX}_w(\text{Mary}).f(w') \text{ is a famous actress in } w'$

Here  $f$  is a free variable to be resolved contextually.<sup>3</sup> As desired, the proposed truth-conditions allow that both sentences in (6) might be true without Mary having inconsistent beliefs; this may be so, for instance, if the free variable is resolved to  $f_1$  for sentence (6a) but to  $f_2$  for sentence (6b), where  $f_1, f_2$  are as given in (7).

- (6) a. Mary believes the star of 'Black Swan' is a famous actress.  
 b. Mary believes the star of 'Black Swan' is not a famous actress.
- (7) a.  $f_1 = \lambda w.\iota x[\text{Mary describes } x \text{ as 'Natalie Portman' in } w]$   
 b.  $f_2 = \lambda w.\iota x[\text{Mary describes } x \text{ as 'the fourth author of } \textit{Frontal Lobe Activation during Object Permanence}$  in  $w]$

And so we arrive at the compositional question. How do *de re* reports come to have truth-conditions of this form?

As for most questions in semantics, we might pursue either a narrow answer or a broad one. A narrow answer, in the sense I have in mind, is one that (perhaps implicitly) restricts the domain of inquiry to English sentences of the general type in (1). (I have indeed already given only a narrow answer to the question of how *de dicto* reports are composed.) A broad answer is one that opens up the field of inquiry to how *natural languages in general* convey *de re* sentence meanings. In this case, as I will argue, the answer that we get from English turns out to reveal only part of the larger picture about how language in general works. There are compositional pathways to *de re* that are made use of in natural language even though they are not made use of for English sentences like (1) (or maybe – more radically – they are not used anywhere in English). Given that (1) does of course have a *de re* reading, a consequence is that there is more than one compositional pathway to *de re* available in natural language.

I will defend a picture that recognizes two distinct options made available by natural language for the compositional makeup of *de re* reports. The first option

2 On the suitability condition, see Kaplan (1968). For critical discussion of the descriptivist approach to *de re* in general, see Ninan (2012).

3 This follows Heim (1994) and Maier (2009). Alternatively,  $f$  may be bound by an existential quantifier, as in Lewis (1979) and Cresswell & von Stechow (1982), in which case the particular functions in (7) serve to witness the quantification for (6).

(call it ‘Method 1’) posits LFs wherein the element to be read *de re* – the *res* – semantically does not serve as an argument of the attitude verb, and syntactically remains inside the embedded clause. This is in keeping with the current consensus view about the *de re* reading of English sentences like (1) (Percus & Sauerland 2003, Anand 2006, Ninan 2012, Charlow & Sharvit 2014, Pearson 2015). The second option (call it ‘Method 2’) posits LFs wherein the *res* semantically does serve as an argument of the attitude verb, and syntactically occupies a distinctive *res* position external to the embedded clause. This follows analyses from Heim (1994).

The nature of my argument will be as follows: I will demonstrate that two LFs (resulting from three distinct types of syntactic derivation) give rise to *de re* reports in a single natural language. As foreshadowed already, that language will not be English (for which I will not quibble with the current consensus that Method 2 is inappropriate). Instead, it will be a Sahaptian language, Nez Perce. In the rest of the paper, I first give a very brief introduction to Nez Perce, highlighting some properties relevant to this investigation (§2). I then discuss three sentence types used to express *de re* reports in Nez Perce: prolepsis (§3), covert raising to object (§4), and syntactically simplex CP complementation (§5). For the first two cases, I will argue for a Method 2 analysis (and thus, implicitly, for a plurality of compositional pathways to *de re* across languages). In the last case, I will argue for Method 1, and so for a plurality of compositional pathways to *de re* within a single language.

## 2 Nez Perce: some background

Nez Perce is a highly endangered Sahaptian language spoken in Idaho, Washington, and Oregon, USA. The data in this paper come from fieldwork conducted with two speakers, Bessie Scott and Florene Davis, on the Nez Perce Reservation in Lapwai, Idaho, over an approximately ten-year period. Descriptions of various aspects of Nez Perce grammar may be found in Aoki 1970, 1994, Rude 1985, 1992, 1999, Crook 1999, and Deal 2010a,b, 2011, 2013, 2015, 2016a,b,c, 2017a,b, 2018, To appear, among other sources. Here, I will focus selectively on aspects of the language which prove especially relevant for understanding the composition of its attitude reports.

Nez Perce has rich systems of case and agreement, which work together to distinguish transitive from intransitive clauses. The case system shows a tripartite ergative alignment: intransitive subjects are NOMinative, but transitive subjects are ERGative (and objects are ACCusative) (Deal 2010b,a, 2016b). Verb agreement is on a nominative-accusative basis. All clauses have subject agreement; transitive clauses are distinctive in also showing object agreement. Overt agreement affixes are used to index 3rd person arguments and plurals (see Deal 2015 for further details):

## (8) Agreement prefixes on verbs

<i>hi-</i>	3rd person subject	<i>pe-</i>	plural subject
<i>'e-</i>	3rd person object	<i>nees-</i>	plural object
<i>pee-</i>	3rd person subject and object		

Like the agreement system, the pronominal paradigm of Nez Perce distinguishes person and number (singular vs. plural). However, as in many languages, pronouns are normally null (*pro*). Silent *pro* is possible in all argument positions and is avoided only in cases of focus, modification, or coordination (Deal 2010b) or cliticization (Deal 2016b). Throughout this paper, null arguments are marked as '*pro*', with the gloss line reflecting the person and number features conveyed by the verbal inflection or the speaker's translation. While Nez Perce word order is quite flexible at the clausal level, I follow a general convention of placing *pros* in SVO order.

Attitude verbs in Nez Perce are relatively limited in number, and can be divided into two groups depending on their basic complementation pattern. A first group – *neki* 'think', *cuukwe* 'know', and *hi* 'say/tell' – combines with a finite clausal complement which is not explicitly marked for subordination.<sup>4</sup>

- (9) Beth      hi-hi-ce                    / hi-neki-se                    /  
 Beth.NOM 3SUBJ-say-IMPERF / 3SUBJ-think-IMPERF /  
 hi-cuukwe-ce                    [ Jill-nim pee-siw'e-nu'                    Matt-ne ]  
 3SUBJ-know-IMPERF [ Jill-ERG 3/3-not.recognize-FUT Matt-ACC ]  
 Beth says / thinks / knows that Jill won't recognize Matt.

A second (somewhat larger) group of verbs combines with a complement that in certain respects resembles a relative clause (cp. Caponigro & Polinsky 2011). The complement begins with nominative relative pronoun *yoχ* followed by relative complementizer *ke*. This group of verbs is composed primarily of emotive factives, e.g. *lilooy* 'be happy', *q'eese'* 'be sad', *cicwaay* 'be surprised', etc.<sup>5</sup>

- (10) Naaqc    hi-q'eese'-ce                    [ yoχ      ke  
 one.NOM 3SUBJ-be.sad-IMPERF [ RP.NOM C  
 hi-ckilii-n-a                                    qiiwn                    ].  
 3SUBJ-go.home-P-REM.PAST old.man.NOM ]  
 Someone is sad that the old man went home.

<sup>4</sup> Glossing abbreviations: 3/3 3rd person subject + 3rd person object, 3SUBJ 3rd person subject, 3OBJ 3rd person object, ACC accusative, C complementizer, CL clitic, DESID desiderative, ERG ergative, FUT future, IMPERF imperfective, IMPERF.PL imperfective + plural subject, NEG negation, NOM nominative, O.PL plural object, P perfect/perfective aspect, PRES present tense, REC.PAST recent past tense, REM.PAST remote past tense, RP relative pronoun, S.PL plural subject, TAM tense/aspect/mood,  $\mu$  functional head present in possessor raising (Deal 2013), 1SG (etc.) 1st person singular (etc.).

<sup>5</sup> Note that VS order in the embedded clause in (10) is neither necessary in this complement type, nor unique to it; Nez Perce intransitives generally allow both VS and SV orders.

While the bracketed material in (10) is similar to a relative clause, the structures diverge in whether they require a gap and permit an external head. A simple relative clause is shown in (11). (For more on Nez Perce relatives, see Deal 2016a.)

- (11) qiiwn [ yô ke hi-ckilii-n-a \_ ]  
 old.man.NOM [ RP.NOM C 3SUBJ-go.home-P-REM.PAST \_ ]  
 the old man who went home

### 3 *De re* by prolepsis

#### 3.1 Basics

We now turn to a first compositional pathway to *de re* reporting in Nez Perce. The focus here will be on two verbs, *neki* ‘think’ and *cuukwe* ‘know’, which as we just saw both occur in a canonical complementation pattern with a finite non-relative CP. This is shown in (12) for *neki* ‘think’, the verb with which I will exemplify throughout this paper. (The patterns demonstrated also hold for *cuukwe* ‘know’.)

- (12) Taamsas hi-neki-se [ ’aayat-onm  
 Taamsas.NOM 3SUBJ-think-IMPERF [ woman-ERG  
 hi-naas-wapayata-ca mamay’as-na ].  
 3SUBJ-O.PL-help-IMPERF children-ACC ]  
 Taamsas thinks a lady is helping the children.

In (12), like in (9), the matrix clause is clearly intransitive: the subject is nominative, and there is no object agreement on the verb ‘think’. This provides a notable contrast with a second type of complementation pattern possible with ‘think’ and ‘know’. In this second pattern, the verb takes an accusative object and the embedded clause is required to contain a bound element (typically *pro*), as in (13). The matrix clause in (13) is transitive: note the accusative object (bolded), ergative subject, and presence of subject and object agreement on the verb (portmanteau form *pee* ‘3 on 3’).

- (13) Taamsas-nim pee-nek-se **’aayat-ona** [ *pro*  
 Taamsas-ERG 3/3-think-IMPERF woman-ACC [ 3SG  
 hi-naas-wapayata-ca mamay’as-na ].  
 3SUBJ-O.PL-help-IMPERF children-ACC ]  
 Taamsas thinks a lady is helping the children.

In presenting example (13), I have bracketed the embedded clause in a way that excludes the accusative DP. Why? Because this accusative DP behaves in several respects like an element of the matrix clause. This is certainly so in terms of its

case/agreement behavior: it shows accusative case, triggering ergative on the matrix subject, and it controls object agreement on the attitude verb. (Accordingly, when the accusative DP is plural in (14), we will see the attitude verb inflected with plural object agreement prefix *nees-*.) More conclusively, the accusative DP behaves like a matrix argument in terms of its word order possibilities. Nez Perce clausal word order is generally flexible, allowing both SOV and SVO orders (among other options). No surprise, then, that the accusative DP may surface anywhere in the matrix clause, including between the matrix subject and verb:

- (14) 'Aayat-onm **mamay'as-na** hi-nees-nek-se [ watiisx *pro*  
 woman-ERG **children-ACC** 3SUBJ-O.PL-think-IMPERF [ 1.day.away 3SG  
 hi-pa-paay-no' ].  
 3SUBJ-S.PL-arrive-FUT ]  
 The woman thinks the children will arrive tomorrow.

But it cannot surface in a position which belongs unambiguously to the embedded clause, such as to the right of an embedded adverb:

- (15) \* 'Aayat-onm hi-nees-nek-se [ watiisx **mamay'as-na**  
 woman-ERG 3SUBJ-O.PL-think-IMPERF [ 1.day.away **children-ACC**  
 hi-pa-paay-no' ].  
 3SUBJ-S.PL-arrive-FUT ]  
 Intended: the woman thinks the children will arrive tomorrow.

At this point I will introduce some terminology that looks ahead to the structural analysis I will defend. I will argue that sentences like (13) and (14) represent *prolepsis* (Takano 2003; Davies 2005; Salzmann 2006, 2017a,b): the object of 'think' is base-generated in the matrix clause and connected indirectly to the embedded clause, in a way to be made precise. Accordingly, I will refer to the matrix accusative DP as the *proleptic object*. What I want to now show is that the prolepsis structure comes with consequences for the way that the proleptic object is interpreted: the proleptic object must be read *de re*.

### 3.2 Semantics of prolepsis

Let us first consider cases in which prolepsis is felicitous. These include contexts clearly supporting a *de re* reading of the proleptic object, such as (16). Here Mary holds a *de re* belief about Calvin, and ascribes magpie-catching to him under a suitable description, but would not assent to the sentence *Calvin caught a magpie*.

- (16) Context: My neighbor Mary sees a cat catching a magpie. It turns out it was my cat, Calvin, but Mary doesn't know that. She just tells me about the fight and what the cat looked like. When I get home, Calvin is there and he's all dirty and messed up. To explain what happened I say:

Mary-nim **Calvin-ne** pee-nek-se [ *pro* pee-cepeqick-e 'ek'eex-ne ].  
 Mary-ERG Calvin-ACC 3/3-think-TAM [ 3SG 3/3-catch-TAM magpie-ACC ]  
 Mary thinks Calvin caught a magpie.

Similarly, the sensible reading of (17) is the *de re* reading, according to which the individuals in question mistakenly believe, *de re* of this dog, that it is not a dog at all (but rather a wolf). Here the proposition required for a *de dicto* analysis would be empty (as there is no world in which a dog is not a dog) and so the *de dicto* reading would be true iff the individuals in question have inconsistent beliefs (in which case their doxastic alternatives are also  $\emptyset$ ).

- (17) Context: There is a friendly dog, but it scares people because they think it's a wolf, just based on how it looks. When I point to it I say:

*pro* pee-nek-six **ki-nye ciq'aamqal-a**, [ *pro* hii-wes  
 3PL 3/3-think-IMPERF.PL this-ACC dog-ACC [ 3SG 3SUBJ-be.PRES  
 himiin weet'u ciq'aamqal ].  
 wolf.NOM not dog.NOM ]

They think that this dog is a wolf, not a dog.

And of course it should be mentioned that prolepsis is perfectly felicitous in a more run-of-the-mill scenario in which an individual simply forms a *de re* belief about another individual. This is the case in the context for (18), where Mary forms a suspicion about one particular dog – the one she sees approach her food.

- (18) Context: There is a BBQ with a lot of food on different tables. People are there with their families and their dogs. Mary leaves her food on one table and sees a dog come up to it. Next thing she knows, the food is missing.

Meli-nim **ciq'aamqal-na** pee-nek-se [ *pro* pee-p-eny-e *pro* hipt].  
 Mary-ERG dog-ACC 3/3-think-TAM [ 3SG 3/3-eat- $\mu$ -TAM 3SG food ]  
 Mary thinks a dog ate her food.

These scenarios contrast with cases in which the proleptic object cannot be read *de re*. In accordance with Fodor's (1970) two distinctions, such scenarios might be divided into those featuring *opaque* interpretation of the DP (with the world variable of its NP restrictor bound by the attitude predicate) and those featuring *non-specific* interpretation of the DP (with its scope under the attitude predicate). Let us consider each case in turn. Nez Perce certainly allows DPs in attitude reports to be read

opaquely: a speaker can, for instance, report another individual's views about white ravens without committing herself to the existence of such creatures. We see in this in (19), a case of canonical (i.e. non-proleptic) complementation, which might be analyzed as in (20):

- (19) Context: John doesn't know that all ravens are black. He thinks that a white raven was flying around outside.

*pro* hi-neki-se [  $\hat{x}ay\hat{x}ay\hat{x}$  qooqo $\hat{x}$  hi-weyixnik-saqa. ]  
 3SG 3SUBJ-think-TAM [ white.NOM raven.NOM 3SUBJ-fly.around-TAM ]

He thinks a white raven was flying around.

- (20)  $\lambda w.\forall w' \in DOX_w(J).\exists x[x \text{ is a white raven in } w' \wedge x \text{ was flying around in } w']$

Here  $\hat{x}ay\hat{x}ay\hat{x}$  qooqo $\hat{x}$  'a white raven' is read opaquely; its world variable is bound by the attitudinal modal quantification. Notably, if this DP appears as a proleptic object, the sentence becomes infelicitous:

- (21) (Same context)

# *pro* pee-nek-se  **$\hat{x}ay\hat{x}ay\hat{x}$ -na qooqoo $\hat{x}$ -na** [ *pro*  
 3SG 3/3-think-IMPERF white-ACC raven-ACC [ 3SG  
 hi-weyixnik-sa-qa. ]  
 3SUBJ-fly.around-IMPERF-REC.PAST ]

The judgment of infelicity is replicated in other sentences featuring proleptic objects *muu wepteesnin* 'a winged cow' and (in a context which establishes that the speaker does not have an older brother) *'iinim piyep* 'my older brother'. In common across these cases is the speaker's inability to make an existential commitment regarding the NP predicate: in our world there are no white ravens, winged cows, or brothers of a brotherless speaker. This absence of existential commitment leads to infelicity only when the DPs in question appear in the proleptic object position, not when they appear internal to the CP in canonical complementation. The generalization is that DPs in the proleptic object position cannot be read opaquely.

The opaque readings considered above are all also non-specific readings: the attitudinal quantification outscopes the existential quantifier over individuals. We next consider cases which share this scopal configuration but which do not require opaque interpretation (because there is no problem with an existential commitment regarding the NP predicate). One such case is (22):

- (22) Context: Mary babysits a pair of identical twins, Sarah and Suzie. They look the same and they dress the same and Mary can't tell them apart. One day, one of the twins decides to play a mean trick on Mary and hides in the closet instead of playing in the yard. Mary gets scared because she thinks one of the twins is missing, but she can't tell which one.

Mary hi-ckaaw-na 'etke *pro* hi-neki-se  
 Mary.NOM 3SUBJ-be.scared-TAM because 3SG 3SUBJ-think-TAM  
 [ naaqc-pa-ma lepe'eyepu-pe-me hi-peeley-ne ]  
 [ one-from-PL.NOM twins-from-PL.NOM 3SUBJ-go.missing-TAM ]  
 Mary got scared because she thought one of the twins was missing.

Crucial here is that there is no particular twin who Mary thinks is missing. (She does not think that Sarah is missing. She does not think that Suzie is missing.) Thus (22) has at least one of the interpretations in (23), both being acceptable in context. (In this scenario, there is presumably no difference in who counts as a twin in the world of evaluation versus in Mary's doxastic alternatives, making it difficult to tell whether the sentence has only one of these readings or in fact both.)

- (23) a. Non-specific opaque:  
 $\lambda w. \forall w' \in DOX_w(\text{Mary}). \exists x[x \text{ is a twin in } w' \wedge x \text{ is missing in } w']$   
 b. Non-specific transparent:  
 $\lambda w. \forall w' \in DOX_w(\text{Mary}). \exists x[x \text{ is a twin in } w \wedge x \text{ is missing in } w']$

Notably, prolepsis is ruled out in this type of context, revealing that *neither* non-specific reading is available for the proleptic object *naaqcpamana* 'one of them'.

- (24) Context: same as (22)  
 # Mary hi-ckaaw-na 'etke *pro* **naaqc-pa-ma-na**  
 Mary.NOM 3SUBJ-be.scared-TAM because 3SG one-from-PL-ACC  
 pee-nek-se [ *pro* hi-peeley-n-e ]  
 3/3-think-IMPERF [ 3SG 3SUBJ-go.missing-P-REM.PAST ]

Given the absence of opaque readings attested above, such data are particularly informative regarding non-specific transparent readings (i.e. "third readings"), e.g. (23b). Such readings are not available for proleptic objects in Nez Perce. In (25)-(26), we see further evidence of this restriction in a case where the non-specific reading is heavily favored by world knowledge. Normally, a person who fears mosquito bites sees any and all mosquitoes as equally threatening; there is no particular individual mosquito *m* whose bite is specifically feared. The non-specific reading may be expressed in a non-proleptic structure, like we saw above in (22):

- (25) Qiiwn hi-neki-se [ waawa-nm pee-ke'np-u' *pro*  
 old.man.NOM 3SUBJ-think-IMPERF [ mosquito-ERG 3/3-bite-FUT 3SG  
 c'alawi *pro* 'emt-kex hi-kiy-u' ]  
 if 3SG outside-to 3SUBJ-go-FUT ]  
 The old man thinks a mosquito might bite him if he went outside.

But it cannot be expressed with proleptic object *waawana* ‘a mosquito’:

- (26) # Qiiwn-im pee-nek-se **waawa-na** [ *pro* pee-ke’np-u’  
 old.man-ERG 3/3-think-IMPERF mosquito-ACC [ 3SG 3/3-bite-FUT  
*pro* c’alawi *pro* ’emt-kex hi-kiy-u’ ]  
 3SG if 3SG outside-to 3SUBJ-go-FUT ]

We find overall that the reading enforced on the proleptic object is what we might call ‘classic *de re*’:<sup>6</sup> the quantificational force associated with the proleptic object must have scope over the attitude verb (yielding a specific reading, in Fodor’s terms), and the NP restrictor of the proleptic object DP must be evaluated independently of the modal quantification (yielding a transparent reading, in Fodor’s terms).

### 3.3 The composition of prolepsis clauses

How are prolepsis clauses composed, such that they impose *de re* requirements?

To answer this question it will be necessary to return to certain syntactic questions that have so far been left unresolved. We have seen that the *res* DP occupies a position in the matrix clause in the surface form. Is this position obtained by movement from the embedded clause, as perhaps we might expect on some form of a modern (description-incorporating) scope/QR approach to *de re* (e.g. Keshet 2010, Yalcin 2015)? There are two broad classes of argument against this type of analysis (and, conversely, in favor of a base-generation alternative).

First are issues of undergeneration. Movement analyses predict that the relationship between the proleptic object and its corresponding embedded argument position should be subject to locality constraints and island effects. This prediction is not borne out: the thematic position associated with the matrix accusative DP may be anywhere in the embedded clause, including inside an island. In (27), we see this for a relative clause island. (On the islandhood of relative clauses in Nez Perce, see Deal (2016a).) The judgment can also be replicated in other island configurations, e.g. *when*-clauses (exemplified in (52) below).

- (27) *pro* ’aayat-ona ’e-neki-se, [CP [ samx̂ yox̂ ke *pro*  
 1SG woman-ACC 3OBJ-think-IMPERF, [CP [ shirt.NOM RP.NOM C 3SG  
 ha-ani-∅-ya ] hii-wes sayaq’ic ]  
 3SUBJ-make-P-REM.PAST ] 3SUBJ-be.PRES pretty ]

I think the shirt that the woman made is pretty.

lit. ≈ I think the woman that the shirt she made is pretty.

<sup>6</sup> The term is intended to distinguish the reading in question from the more general case of what von Stechow & Heim (2011: 106) call ‘restrictor *de re*’, i.e. Fodorian ‘transparency’.



- (31) \* Taamsas-nim **Angel-na Tatlo{-na/-0}** pee-nek-se [ *pro*  
 Taamsas-ERG Angel-ACC Tatlo{-ACC/-NOM} 3/3-think-IMPERF [ 3SG  
 pee-tecukwe-ce *pro* ]  
 3/3-teach-IMPERF 3SG ]  
 Intended: Taamsas thinks Angel is teaching Tatlo / Tatlo is teaching Angel.

The evidence to this point leads to three interim conclusions. First, the accusative argument is base-generated in the matrix clause, rather than moving there; this provides a straightforward explanation for the absence of island effects in (27). Second, as we see in (31), there can only be one such argument; there is no multiple prolepsis. Third, the verb determines whether or not such an argument is permissible: it is for *neki* ‘think’ and *cuukwe* ‘know’, but not for *hi* ‘say/tell’ and *q’ese* ‘be sad’.

Taken together, these points suggest that the verb *neki* ‘think’ or *cuukwe* ‘know’, as matter of its lexical entry, may combine with two individual-denoting arguments: the attitude holder, and the *res*. Notably, these verbs may only compose with *res* arguments in the prolepsis construction – not independently. For *neki* ‘think’, the simply transitive (clause-less) version is ungrammatical:

- (32) \* Angel-nim hi-nees-nek-se mamay’as-na.  
 Angel-ERG 3SUBJ-O.PL-think-IMPERF children-ACC  
 Intended: Angel (had a) thought about the children.  
 Consultant comment: “That’s only half a sentence.”

For *cuukwe* ‘know’, there is a simply transitive version (cp. French *connaître*, German *kennen*, English *be acquainted*), but the prolepsis version doesn’t entail it:

- (33) Weet’u *pro* ’e-cuukwe-ce Curry-na, met’u *pro pro*  
 NEG 1SG 3OBJ-know-IMPERF Curry-ACC, but 1SG 3SG  
 ’e-cuukwe-ce [ *pro* hii-wes cikaw’is poxpoxiy’awaat ]  
 3OBJ-know-IMPERF [ 3SG 3SUBJ-be.PRES good ballplayer.NOM ]  
 I don’t know Curry, but I know that he is a good player.

This suggests that the lexical entries of ‘think’ and ‘know’ used in prolepsis construction not only provide a *res* position, but also establish a connection between the *res* and explicit clausal material.

Lexical entries that give attitude verbs exactly the right type of valence to account for this behavior have been much discussed. The denotation in (34), for ‘think’, draws on a proposal about temporal *de re* by Heim (1994: 155):

- (34)  $[[neki\ de\ re]] = \lambda P.\lambda x.\lambda y.\lambda w.f(w) = x \wedge Suitable_w(f, y). \forall w' \in DOX_w(y). P_{w'}(f(w'))$

According to this denotation, the attitude verb has two individual arguments: the attitude holder (*y*) and a *res* (*x*). It also has an intensional property argument (*P*),

supplied by the embedded clause. The relation to the *de re* truth conditions in (5) should be transparent. Context must provide a relation  $f$ . A report using this verb denotation (at  $w$ ) requires that  $f$  pick out the *res* in the evaluation world; that  $f$  be suitable for the attitude holder (at the evaluation world); and that all worlds  $w'$  compatible with what the attitude holder believes in  $w$  are such that  $f(w')$  has the intensional property in  $w'$ . The lexical entry in (34) can be contrasted with a simple *de dicto* denotation for the verb, as in (35):

$$(35) \quad \llbracket neki \text{ de dicto} \rrbracket^{c:8} = \lambda p. \lambda y. \lambda w. \forall w' \in DOX_w(y). p_{w'}$$

Here the clausal argument of the verb provides a proposition, rather than an intensional property. One point captured by this difference is that in prolepsis, but not in regular CP complementation, bound-pronoun-less CPs are impossible. Thus cases of ‘gapless prolepsis’, as in (36), are ill-formed:<sup>7</sup>

- (36) \* 'Aayat-om sik'eem-ne hi-nees-nek-se [ 'oykaloo-nm  
 woman-ERG horse-ACC 3SUBJ-O.PL-think-IMPERF [ everyone-ERG  
 puu-cet-'ipeecwi-six maami-na ].  
 3/3-ride-DESID-IMPERF.PL Appaloosa-ACC ]  
 Intended: the woman thinks regarding horses that everyone wants to ride  
 an Appaloosa.

Without a pronoun to bind in the embedded clause, the CP cannot (on pain of vacuity) provide an intensional property as called for by the proleptic verb. (The corresponding non-proleptic structures are of course perfect – the difference being that the verb takes a propositional argument rather than a property-type one. See e.g. (12) or (19).)

How does the proleptic complement CP end up property-type? For prolepsis in German, which shows semantic behavior parallel to prolepsis in Nez Perce, Salzmann (2006, 2017b) proposes an answer involving null operator movement: the operator starts in the embedded pronoun position and covertly moves to the edge of the embedded CP, forming an abstraction. A significant cost of this analysis is that operator movement has to be island-insensitive: both in German and in Nez Perce, the embedded pronoun position may be inside an island inside the embedded CP. Salzmann nevertheless pursues this analysis on the grounds that it explains why, in German, the CP complement of a proleptic verb is an island for further movement. In Nez Perce, the cost still has to be paid (prolepsis is island-insensitive), but the

<sup>7</sup> Here there is a clear difference with the English *think regarding DP that CP* construction, as the well-formedness of the potential English correlate sentence here reveals. There are other such differences: e.g., to my ear, *I think regarding unicorns that they don't exist* is perfectly well-formed, suggesting that no *de re* requirement is imposed on the English construction.

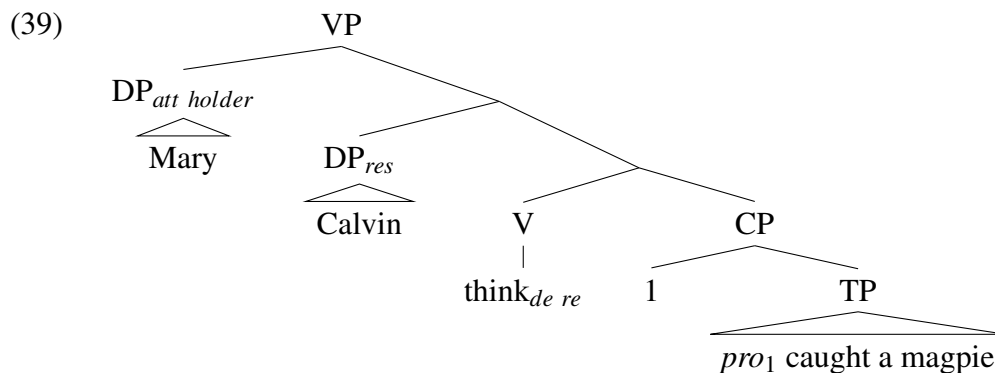
benefit doesn't accrue. CP complements aren't islands in prolepsis, just like they aren't islands in ordinary complementation:

- (37) Mawa Tatlo-nm Harold-ne pee-nek-se [ *pro* hi-paay-no' *t* ]?  
 when Tatlo-ERG Harold-ACC 3/3-think-TAM [ 3SG 3SUBJ-arrive-FUT ]  
 When<sub>*i*</sub> does Tatlo think Harold will arrive *t<sub>i</sub>*?

In view of the cost (and the absence of countervailing evidence of operator movement), I will simply assume a base-generated abstractor at the edge of the embedded CP (cp. Chierchia 1989).

With this final detail in place, we can now lay out the structure and interpretation of prolepsis clauses. For sentence (16), repeated in (38), the VP-level LF is shown in (39) (where, for clarity, I have taken the liberty of replacing Nez Perce words with their English glosses). Given the verb denotation in (34), this returns (relative to a contextual specification of *f*) the propositional meaning in (40):

- (38) Mary-nim Calvin-ne pee-nek-se [ *pro* pee-cepeqick-e 'ek'eex-ne ].  
 Mary-ERG Calvin-ACC 3/3-think-TAM [ 3SG 3/3-catch-TAM magpie-ACC ]  
 Mary thinks Calvin caught a magpie.



- (40)  $\lambda w.f(w) = Cal \wedge Suitable_w(f, M). \forall w' \in DOX_w(M). f(w') \text{ caught a magpie in } w'$

Structure (39) clearly is a Method 2 LF, in the sense laid out in the introduction: it treats the *res* as a semantic argument of the verb, occupying a dedicated syntactic position for such arguments. This structure diverges from previous Method 2 proposals (e.g. Heim 1994) in treating the *res* position as one filled by base-generated material, as opposed to material that is covertly moved. We might wonder if this is generally necessary. Could covert movement of a DP into this position also be a path to *de re* interpretation? In the next section, I will argue that the answer is yes.

## 4 *De re* by covert raising

### 4.1 Basics

In addition to ordinary complementation and prolepsis, Nez Perce ‘think’ and ‘know’ reports also allow a third option, morphosyntactically intermediate between the previous two. Here, as shown in (41) and (42), the matrix clause shows transitive morphosyntax: the attitude holder DP appears in ergative case, and the attitude verb hosts object agreement. However, there is no apparent gap or bound element in the embedded clause, and no accusative matrix object. Instead, in these examples, plural object agreement (*nees-*) indexes an argument that is either nominative or ergative. In the examples in this section, I mark the element indexed by object agreement on the attitude verb with a  $\oplus$  symbol.

- (41) Harold-nim hi-**nees**-nek-se [ **hitemenew’eet** $\oplus$   
 Harold-ERG 3SUBJ-**O.PL**-think-IMPERF [ student.NOM  
 hi-wsiix wiweepcux ].  
 3SUBJ-be.PRES.PL smart ]  
 Harold thinks the students are smart.
- (42) Taamsas-nim hi-**nees**-nek-se [ **mamay’as-nim** $\oplus$   
 Taamsas-ERG 3SUBJ-**O.PL**-think-IMPERF [ children-ERG  
 poo-payata-six Angel-ne ].  
 3/3-help-IMPERF.PL Angel-ACC ]  
 Taamsas thinks the children are helping Angel.

Here I have bracketed the argument tracked by matrix object agreement, DP $\oplus$ , inside the embedded clause. This reflects its behavior in terms of case and word order. In terms of case, DP $\oplus$  is nominative when it serves as the subject of an intransitive lower clause (e.g. in (41)) but ergative when it serves as the subject of a transitive lower clause (e.g. in (42)). In terms of word order, DP $\oplus$  may freely surface to the right of material belonging to the embedded clause, such as an embedded adverb, (43); contrast prolepsis example (15).

- (43) ’Aayat-onm hi-**nees**-nek-se [ watiisx **mamay’ac** $\oplus$   
 woman-ERG 3SUBJ-**O.PL**-think-IMPERF [ 1.day.away **children.NOM**  
 hi-pa-paay-no’ ].  
 3SUBJ-S.PL-arrive-FUT ]  
 The woman thinks the children will arrive tomorrow.

In contrast, DP $\oplus$  cannot surface to the left of the matrix verb: compare the ungrammatical (44) with the grammatical prolepsis example (14).

- (44) \* 'Aayat-onm **mamay'**ac<sup>⊕</sup> hi-nees-nek-se [ watiisx  
 woman-ERG **children.NOM** 3SUBJ-O.PL-think-IMPERF [ 1.day.away  
 hi-pa-paay-no' ].  
 3SUBJ-S.PL-arrive-FUT ]  
 Intended: the woman thinks the children will arrive tomorrow.

Clearly, this is a different surface structure type than we find in prolepsis. In Deal (2017b), I argued that this type of sentence reflects covert raising to object: DP<sup>⊕</sup> is base-generated in the embedded clause, and surfaces there, but nevertheless occupies a matrix clause position at LF. The relevant movement is well-behaved A-movement, sensitive to islands, A-intervention, and improper movement constraints. Where we turn now is to the interpretation of such structures, where we will see again the imposition of a *de re* requirement.

## 4.2 Semantics of covert raising

We begin, as for prolepsis, with contexts in which covert raising clauses are felicitous. Like for prolepsis, these include a variety of cases in which the DP triggering object agreement on the attitude verb (DP<sup>⊕</sup>) is read *de re*. The scenarios below reprise those in (16), (17), and (18).

- (45) Context: My neighbor Mary sees a cat catching a magpie. It turns out it was my cat, Calvin, but Mary doesn't know that. She just tells me about the fight and what the cat looked like. When I get home, Calvin is there and he's all dirty and messed up. To explain what happened I say:  
 Mary-nim pee-nek-se [ **Calvin-nim**<sup>⊕</sup> pee-cepeqick-e 'ek'eex-ne ].  
 Mary-ERG 3/3-think-TAM [ Calvin-ERG 3/3-catch-TAM magpie-ACC ]  
 Mary thinks Calvin caught a magpie.
- (46) Context: There is a friendly dog, but it scares people because they think it's a wolf, just based on how it looks. When I point to it I say:  
 Weet'u 'isii-nm pee-nek-six [ **kii ciq'aamqal**<sup>⊕</sup> hii-wes  
 NEG who-ERG 3/3-think-IMPERF.PL [ this dog.NOM 3SUBJ-be.PRES  
 ciq'aamqal ]. *pro* pee-nek-six [ *pro* hii-wes himiin ].  
 dog.NOM ] 3PL 3/3-think-IMPERF.PL [ 3SG 3SUBJ-be.PRES wolf.NOM ]  
 No one thinks this dog is a dog. They think it's a wolf.
- (47) Context: There is a BBQ with a lot of food on different tables. People are there with their families and their dogs. Mary leaves her food on one table and sees a dog come up to it. Next thing she knows, the food is missing.



- (50) Context: Kunk'u haacwal 'imiit hiiwes, 'etke... (The boy is always inside, because...)

# *pro* pee-nek-se [ **waawa-nm**<sup>⊕</sup> poo-c'oox'coox'-no'qa *pro*  
 3SG 3/3-think-IMPERF [ mosquito-ERG 3/3-suck.on-MODAL 3SG  
 c'alawi *pro* ha-'at-o'qa ]  
 if 3SG 3SUBJ-go.out-MODAL ]

Intended: he thinks a mosquito<sub>nonspecific</sub> would bite him if he went out.

Such data show that DP<sup>⊕</sup> may not be read non-specifically. The same requirement is imposed here as for proleptic objects: only a classic *de re* reading is available.

### 4.3 The composition of covert raising clauses

A first desideratum for a theory of covert raising is an account of why prolepsis and covert raising should be similar in this way. Why should there be a semantic generalization that groups together proleptic objects (in prolepsis) and DP<sup>⊕</sup> (in covert raising)? A second desideratum is an account of a tight distributional connection between these two constructions: the verbs that allow covert raising are all and only those that also allow prolepsis. *Neki* 'think' and *cuukwe* 'know' allow both; all other verbs (e.g. *hi* 'say/tell', *q'eesse* 'be sad (that)') allow neither.

A response to both desiderata plausibly begins with the morphosyntactic behavior in common between the proleptic object and DP<sup>⊕</sup>: they are the controllers of object agreement on *neki* 'think' and *cuukwe* 'know'. It is straightforward to explain why the proleptic object should control this agreement: it occupies the object position of a transitive, Heimian attitude verb, as in (39). Could DP<sup>⊕</sup> also occupy this position, at LF (and perhaps before<sup>8</sup>)? Such an account responds to the first desideratum: DP<sup>⊕</sup> and the proleptic object are both read *de re* because both occupy the object position of a Heimian attitude verb. It also meets the second desideratum: *neki* 'think' and *cuukwe* 'know' are unique among Nez Perce attitude verbs in that they have a Heimian denotation, providing a DP *res* position. An attitude verb that lacks a denotation of this type will not allow either prolepsis or covert raising.

If this view can be sustained, the difference between prolepsis and covert raising lies not in their LF, but rather in the syntactic derivation by which this LF is produced. In one case but not the other, the object position of the attitude verb is filled by a base-generated DP. And indeed there is syntactic reason to think that DP<sup>⊕</sup> moves covertly out of its clause, into the matrix, as this analysis requires. We find island effects (missing in prolepsis, e.g. (52)) reappearing in cases of covert raising:

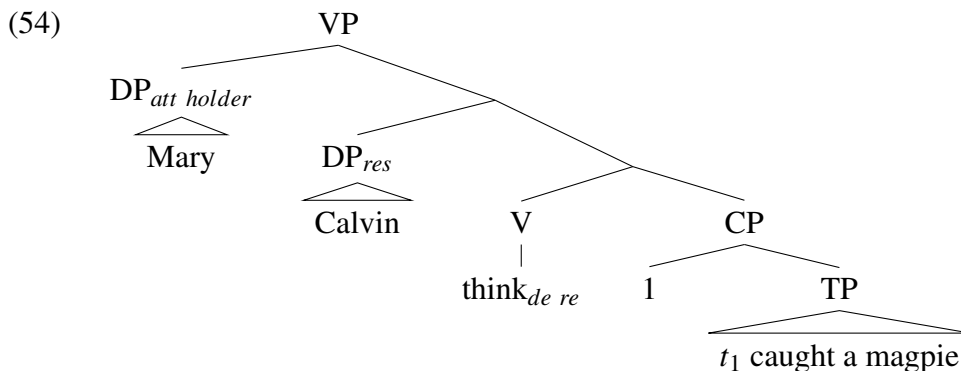
<sup>8</sup> I propose in Deal (2017b) that the covert movement of DP<sup>⊕</sup> is ordinary syntactic movement subject to lower copy pronunciation (rather than post-syntactic movement). Cp. Fox & Nissenbaum (1999).

- (51) \* 'aayat-onm hi-nees-nek-se [CP [*adjunct* ke kaa **mamay'ac**<sup>⊕</sup>  
 woman-ERG 3SUBJ-O.PL-think-TAM [ [ when children.NOM  
 hi-pa-paay-no' ], hi-lloy-no' qiiwn ].  
 3SUBJ-S.PL-arrive-FUT ], 3SUBJ-be.happy-FUT old.man.NOM ]  
 Intended: the woman thinks that when the kids arrive, the old man will be  
 happy.

- (52) 'aayat-onm **mamay'ac-na** hi-nees-nek-se [CP [*adjunct* ke kaa  
 woman-ERG children-ACC 3SUBJ-O.PL-think-TAM [ [ when  
*pro* hi-pa-paay-no' ], hi-lloy-no' qiiwn ]  
 3PL 3SUBJ-S.PL-arrive-FUT], 3SUBJ-be.happy-FUT old.man.NOM ]  
 The woman thinks that when the kids arrive, the old man will be happy.

For two further, purely syntactic arguments in favor of positing (A-)movement into the matrix clause for covert raising, I refer the reader to Deal 2017b. Here, for reasons of space, I will simply move ahead with the consequences of these arguments for the question of how covert raising clauses are composed. In the LF for a covert raising sentence, DP<sup>⊕</sup> occupies the same position as a proleptic object; it serves as the semantic argument to a transitive, Heimian attitude verb. Thus the LFs of prolepsis and covert raising are entirely the same (modulo the difference, if any, in the embedded clause between a trace left by covert raising vs. the independent pronoun used in prolepsis):

- (53) Mary-nim pee-nek-se [ **Calvin-nim**<sup>⊕</sup> pee-cepeqick-e 'ek'eex-ne ].  
 Mary-ERG 3/3-think-TAM [ Calvin-ERG 3/3-catch-TAM magpie-ACC ]  
 Mary thinks Calvin caught a magpie.



It might be noted that this derivation (like previous *res*-movement accounts, e.g. Heim 1994) involves an instance of movement to  $\theta$ -position. Movement does not create an abstraction right below the landing site, or indeed, any abstractor at all. (The abstractor present on the edge of the embedded clause in (54) is the same

base-generated abstractor found in prolepsis (39).) Rather, the abstraction needed for semantic integration of the moved argument is provided by the verb itself. I would like to suggest that the central role of the verb denotation here provides an explanation for why there is no scopal reconstruction possible in covert raising. To account for familiar cases where a quantificational DP A-moves over a modal predicate but is scopally interpreted below that predicate – e.g., in the Missing Twin scenario from (22), sentence (55) – we might appeal to either high-typed traces (semantic reconstruction) or deletion of copies (syntactic reconstruction):

(55) A twin seems *t* to be missing. *Possible reading: seems* > ∃

Neither mechanism applies straightforwardly in a structure like (54). If the higher copy of  $DP^{\oplus}$  is deleted, the attitude verb fails to obtain all its arguments (and a propositional meaning will not be produced at VP). Moreover, the lower copy of  $DP^{\oplus}$  will not provide a variable, and so the abstraction in the embedded clause will be vacuous (which is ruled out in (36)). On the other hand, if the embedded trace (and its binder) are GQ type, the embedded clause will not be able to compose with the attitude verb. Both problems trace back to the denotation of the transitive attitude verb, (34). In order to produce a low-scope reading for  $DP^{\oplus}$ , we would need to substitute a different verbal lexical entry – something that reconstruction cannot do.

## 5 *De re in situ*

The covert raising derivation for *de re* LFs proposed in the previous section is in two basic ways reminiscent of Heim’s *res*-movement account of (temporal) *de re* in English: the *res* moves into the matrix clause, and this movement is covert. At the same time, the movement in question is different from classic *res*-movement in that it is, in general, syntactically far better behaved. First, it targets an independently motivated position (in which proleptic objects can appear). Second, it is constrained by argument structure (only one *res* position is available per verb). Third, it is limited by islands and (as shown in Deal 2017b) by A-intervention, like other A-movement.

Of course, classic *res*-movement views are unconstrained in all these ways because of what the data are like. *De re* readings are not limited to exactly one *res* per attitude verb, nor by islands or other syntactic constraints. These and other considerations (e.g. Charlow & Sharvit 2014) favor an approach for English that eschews *res*-movement: the *res* argument remains in situ inside CP, and *de re* interpretation is derived with the help of concept generators (Percus & Sauerland 2003, Anand 2006, Charlow & Sharvit 2014, Pearson 2015) or similar technology (Ninan 2012). This is what I have called ‘Method 1’ for *de re* interpretation. In this section I will make the case that Method 1 LFs are available in Nez Perce, too.

We begin with the observation that Nez Perce never *requires* a prolepsis/covert raising strategy for *de re*. Consider, for instance, the context for prolepsis example (16) and covert raising example (45), repeated in (56). Simple intransitive CP complementation is fully possible in this case:

- (56) **Magpie context:** My neighbor Mary sees a cat catching a magpie. It turns out it was my cat, Calvin, but Mary doesn't know that. She just tells me about the fight and what the cat looked like. When I get home, Calvin is there and he's all dirty and messed up. To explain what happened I say:

Mary hi-neki-se [ Calvin-nim pee-cepeqick-e 'ek'eex-ne ].  
 Mary.NOM 3SUBJ-think-TAM [ Calvin-ERG 3/3-catch-TAM magpie-ACC ]  
 Mary thinks Calvin caught a magpie.

The analysis here is unlikely to feature covert *res*-movement – the morphosyntactic signatures are missing. (There is no ergative on the matrix subject, nor object agreement on the attitude verb.) From a surface perspective, the *de re* reading here is totally unmarked. And this example is unexceptional in allowing an unmarked *de re* reading: simple CP complementation in Nez Perce freely allows both *de re* and *de dicto* readings, just as in English. Intransitive CP complementation is thus fully felicitous in all of the scenarios discussed in sections 3.2 and 4.2.

The overall syntactic generalization about *de re* readings for material other than proleptic objects/DP<sup>⊕</sup> seems to be that they are entirely syntactically unconstrained. For instance, while there can be only one proleptic object/DP<sup>⊕</sup> per attitude verb, multiple *de re* is fully possible:<sup>9</sup>

- (57) Context: My new neighbor sees a cat chasing a dog around my yard and she tells me what she saw. I know that it must have been Calvin, the cat, and Fido, the dog – my neighbor doesn't know that though. (She doesn't know what the animals are called.)

*pro* hi-neki-se [ Calvin-nim pee-tw'ehke'yk-saqa Fido-ne ].  
 3SG 3SUBJ-think-IMPERF [ Calvin-ERG 3/3-chase-TAM Fido-ACC ]  
 She thinks Calvin was chasing Fido.

And *de re* readings are possible in islands, e.g. in (58) with an adjunct island:

<sup>9</sup> Multiple *de re* is also possible in a prolepsis or covert raising sentence, so long as only one *res* is treated syntactically as the proleptic object/DP<sup>⊕</sup>. Doing justice to this possibility requires an update to the analysis of the Heimian attitude verb in (34): if we handle *de re* in situ via concept generators, the verb must both introduce a *res* position and quantify over concept generators.



But notably, indexical shift is typically degraded when combined with prolepsis or covert raising:

(60) Context: same.

?? Meeli-nim pee-nek-se [ Calvin-nim hi-p'li-yay'-sa *pro*  
Mary-ERG 3/3-think-IMPERF [ Calvin-ERG 3SUBJ-dig- $\mu$ -IMPERF 1SG  
laatis ].  
flower.NOM

Intended: Mary<sub>i</sub> thinks Calvin is digging up my<sub>i</sub> flowers.

This contrast confirms that unmarked *de re* is not merely a different phonological cast on the same basic LF. Rather, *de re ex situ*, in contrast to *de re in situ*, requires LF ingredients (e.g. the CP-edge abstractor) which are incompatible with shifty operators.

## 6 Conclusions

In this paper I have argued that attitude reports *de re* may arise from two distinct types of LF, produced derivationally in three ways. One type features an attitude verb taking the *res* as its semantic argument. In Nez Perce, such LFs may be derived by prolepsis or by covert raising. The second type features a *res* argument which is syntactically unconnected to the attitude verb, where the relation at a distance is mediated by technology such as concept generators. Such LFs are the predominant if not only way to produce *de re* readings in English, and are possible in Nez Perce as well. Internal to a single natural language, then, attitude reports *de re* may be derived in two distinct ways.

I will conclude by drawing attention to two particular places where the investigation of *de re* in Nez Perce casts additional light on compositional questions. First, the Nez Perce data show that natural language does indeed allow for covert movement to a *res* position – but only when this movement respects syntactic constraints imposed on movement generally. This suggests that covert operations are in general subject to the same principles as other syntactic operations, and therefore, that any additional pathways to *de re* that are yet to be discovered are likely to also be those that are syntactically well-behaved. Second, it is curious that in English, Nez Perce, and a great many well-known languages besides, there is no *necessary* morphosyntactic signature of *de re*. Unmarked *de re* may be a language universal. If the universal holds, the theory of *de re in situ* should account for the absence of marking – why are concept generators never obligatorily overt?

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