

Semantic incorporation in Lillooet

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I propose that Lillooet DPs headed by the determiner *ku* are always of the semantic type ⟨et,et⟩, and that they incorporate semantically with their predicates. I use as a model Dayal's 1999 analysis of semantic incorporation in Hindi. In addition, I discuss evidence from other Salish languages of similar DP behavior, and the possibility that my proposal presents a difficulty for the Pronominal Argument Hypothesis of Jelinek & Demers 1994.

1 The Lillooet determiner *ku*

One of the distinctions in the Lillooet determiner system is between determiners that assert the existence of their referents, and those that do not (Matthewson 1998). For most speakers, *ku* is the only determiner available in non-assertion of existence contexts.

(1) <i>Lillooet determiners</i> (LM98:175)		assertion of existence			non-assertion of existence
		present	absent	Remote	
-plural		ti..a	ni..a	ku..a	ku (kwelh)
+plural	-collective	i..a	nelh..a	kwelh..a	
	+collective	ki..a			

Matthewson identifies two main uses of the Lillooet determiner *ku*: as a polarity determiner and as the head of predicate modifiers. Polarity *ku* heads non-assertion of existence DPs (determiner phrases), and must be licensed by some non-factual operator or context. Predicate modifier head *ku* heads DPs that modify open-class words, i.e. the syntactic class of predicates.

1.1 Polarity *ku*

As a polarity determiner, *ku* must be licensed by some non-factual context. The contexts that license polarity *ku* include negation, future and non-factual modals, and intensional verbs. In these contexts *ku* is straightforwardly understood as a neutral non-assertion of existence determiner.¹

- (2) a. cw7ay t'u7 kw-s tecwp-s [ku smulhats] [ku qmut]
 NEG just D-NOM buy-3SG.POSS [D woman] [D hat]
 No lady bought any hat. (negation, LM98:198)
- b. cuz' 7áz'-en-as [ti sts'úqwaz'=a] [ku sqaycw].
 going-to buy-TR-3ERG [D fish=D] [D man]
Some man is going to buy that fish. (modal, LM98:191)
- c. xát'-min'-lhkan kw-s 7áz'-en-as [ku smulhats] [ku qmut].
 hard-APPL-1SG.SUB D-NOM buy-TR-3ERG [D woman][D hat]
 I want a woman to buy a hat. (intensional verb, LM98:195)

Questions and imperatives are polarity *ku* licensing contexts as well.

- (3) a. wa7 ha kati7 [ku maqa7].
 be YNQ DEIC [D snow]
 Is there any snow around? (yes/no question, LM98:195)

¹ Much of the Lillooet data used in this paper are taken directly from Lisa Matthewson's fieldwork (marked 'LM fieldwork') or from her dissertation (marked 'LM98'), but some of the data and judgments are based only on her non-native knowledge of Lillooet (marked simply 'LM'), and await the judgments of native speakers.

- b. swat [ku 7ats'x-en-as [ti kukwpi7=a]].
 who [D see-TR-3ERG [D chief=D]]
 Who saw a chief? / Who did a chief see? (wh-question, LM98:196)
- c. az'-cit [ku cwik'ten].
 buy-APPL [D knife]
 Buy her a knife. (imperative, LM)

1.2 Predicate modifier head *ku*

As a predicate modifier head, *ku* heads DPs that appear to be of the semantic type $\langle et, et \rangle$. That is, a functional type that takes as arguments functions from entities to truth values, and returns functions from entities to truth values. I am assuming here that Lillooet open-class words are of type $\langle et \rangle$, i.e. functions from entities to truth values. Predicate modifier head *ku* does not need to be licensed like polarity *ku*, and is optional when it heads a complex predicate, relative clause, or VP adverbial.

- (4) a. gelgel [(ku) sqaycw] [kw-s John].
 strong [(D) man] [D-NOM John]
 John is a strong man. (complex predicate, LM98:209)
- b. ats'x-en-lhkan [ta xzum=a [(ku) spzuza7]].
 see-TR-1SG.SU [D-big=D [(D) bird]]
 I saw a big bird / bird that was big. (relative clause, LM98:211)
- c. xan' [(ku) nukun'].
 get.hurt [(D) again]
 She got hurt again. (VP adverbial, LM98:218)

Only when *ku* heads an obligatory argument or the object of a middle verb is it obligatory. Notice that while a *ku* DP is grammatical as the object of a middle verb, it is ungrammatical with a transitive verb.

- (5) a. cw7aoz kw-a-s st'at'imc-ets [ku ti7texw].
 NEG D-PROG-NOM Lillooet-mouth [D correct]
 He doesn't speak Lillooet correctly. (argument adverbial, LM98:218)
- b. pupen'=lhkan [ku maw].
 find.RED-1SG.SUB [D cat]
 I found_{vi} a cat / cats. (object of middle verb, LM98:219)
- c. *pup-ens=kan [ku maw].
 find.RED-TR-1SG.SUB [D cat]
 I found_{vi} a cat. (object of transitive verb, LM98:219)

The grammaticality of *ku* DPs as objects of middle verbs seems to correspond with the morphological intransitivity of middle verbs, though they may be notionally transitive. This works well with Matthewson's analysis of predicate-modifying *ku* DPs as type $\langle et, et \rangle$, since these would be semantically compatible with intransitive verbs of type $\langle et \rangle$, but not with transitive verbs of type $\langle e, et \rangle$.

2 Proposal

While analyzing predicate modifier head *ku* DPs as type $\langle et, et \rangle$ is straightforward, it is unclear what the semantic type of polarity *ku* should be. Polarity *ku* DPs appear to fill argument positions, which suggests that they denote entities of type *e*, but there are problems associated with an *e*-type analysis of polarity *ku* DPs.² I propose a different analysis, that *ku* DPs are always predicate modifiers of type $\langle et, et \rangle$. When *ku* DPs are arguments of predicates, they incorporate semantically with their predicates. As a starting point for my incorporational analysis of *ku* DPs in Lillooet, I take Dayal's 1999 proposal for incorporational objects in Hindi.

² One a priori problem with an *e*-type analysis of *ku* DPs is that they do not refer.

2.1 Hindi incorporation

Dayal 1999 explains certain facts of Hindi bare NP (noun phrase) interpretation in terms of incorporation. When a Hindi bare NP denotes a kind expression incompatible with an individual-taking argument position, the incompatibility is resolved by the suppression of the argument position and the incorporation of the NP with the predicate.

Interestingly, the kind of incorporation that Dayal proposes is semantic incorporation, as opposed to the morphological incorporation that is proposed for languages like Greenlandic and Mohawk (Mithun 1984, Baker 1988). The distinction is that morphological incorporation is an overt morphological phenomenon, while semantic incorporation is only apparent by its semantic interpretation. The interpretation of an incorporated NP is a narrow scope, non-specific existential, as opposed to the wide-scope, specific existential reading associated with regular indefinites. I use the term *specific* here to mean 'referring to a unique individual — not necessarily known to the speaker, but known by the speaker to exist — who fits the description'.

Take for example the following minimal pair of Hindi sentences. The first exemplifies the interpretation of an incorporated bare NP, and the second exemplifies the interpretation of a normal indefinite.

- (6) a. anu kitaab nahiiN paRhegii
 Anu book not read-F
 Anu won't BOOK-read. / *There's a book Anu won't read. (Dayal 1999:35)
- b. anu ek/koi kitaab nahiiN paRhegii
 Anu one/some book not read-F
 Anu won't read any book. / There's a book Anu won't read. (Dayal 1999:35)

Hindi incorporated NPs also take narrow scope under other operators as well as negation, including adverbials and quantifiers. According with their non-specific interpretations, they also do not support discourse anaphora.

- (7) a. anu puure din machhlii pakaRtii rahii
 Anu whole day fish catch-PAST
 Anu kept FISH-catching the whole day. (Dayal 1999:35)
- b. anu kitaab paRh rahii hai. *vo bahut acchii hai
 Anu book read-PR-PROG it very good be-PR
 Anu is BOOK-reading. It is very good. (Dayal 1999:36)

Bare singular NPs in Brazilian Portuguese exhibit similar behavior (Schmitt & Munn 2000).

- (8) a. João não viu mancha no chão.
 João didn't see spot on the floor.
 *There's a spot on the floor João didn't see. (Schmitt & Munn 2000:4)
- b. Maria detesta coelho porque *Ø/*ele roubou suas cenouras.
 Maria hates rabbit because *Ø/*it stole her carrots. (Schmitt & Munn 2000:5)

Another requirement of Hindi incorporated NPs is that they be adjacent to the predicates with which they incorporate. Accusative case-marking on the NP, for example, blocks incorporation (i.e. disallows a nonspecific reading).

- (9) anu [kitaab-ko] paRh rahii hai.
 Anu [book-ACC] read-PR-PROG
 Anu is reading the/a certain book. / *Anu is BOOK-reading. (Dayal 1999:41)

Finally, there are certain semantic and pragmatic limitations on what kinds of nouns can incorporate. First, inanimate NPs incorporate better than animate NPs. Second, idiosyncratic cultural practices seem to make certain nouns more incorporable. For example, the incorporated *laRkii dekhnaa*

'GIRL-seeing' only refers to the practice of looking for a prospective bride, and the parallel *aurat dekhnaa* 'WOMAN-seeing' is ungrammatical.

- (10)a. kitaab paRhnaa, baal kaaTnaa, makkhii maarna, laRkii dekhnaa
 BOOK-reading, HAIR-cutting, FLY-beating, GIRL-seeing (Dayal 1999:41)
 b. *kutta maarna, *baccaa maarna, *aurat dekhnaa
 DOG-beating, CHILD-beating, WOMAN-seeing (Dayal 1999:41)

2.2 A comparison of Lillooet and Hindi

In investigating whether or not an incorporational analysis of Lillooet *ku* DPs is workable, I first compare the behavior of *ku* DPs to incorporated NPs in Hindi. Like Hindi incorporating NPs, Lillooet *ku* DPs do not support wide scope existential readings or discourse anaphora.

- (11)a. pupen'=lhkan [ku maw].
 find.RED-1SG.SUB [D cat]
 I found a cat. / *There's a cat that I found. (LM)
 b. az'-cit [ku cwik'ten], lh ka pun-acw=a *Ø/*ti7.
 buy-APPL [D knife], HYP OOC find-TR-2SG.CNJ-OOC Ø/DEM
 Buy her a knife, if you can find *it. (LM)

Unlike Hindi incorporating NPs however, Lillooet *ku* DPs do not have to be adjacent to their predicates, and can be animate as well as inanimate.

- (12)a. wa7=lhkacw ha [qus-en] [i-natcw-as] [ku ts'i7] ?
 be=2SG YNQ [shoot-TR] [C-day-3SG.CNJ] [D deer]
 Did you shoot any deer yesterday? (LM)
 b. ay t'u7 kw-s [qus-en-itas] [i ucwalmicw=a] [ku ts'i7].
 NEG just C-NOM [shoot-TR-3P.ERG] [D Indian=D] [D deer]
 The Indians didn't shoot any deer. (LM)

Also unlike incorporating NPs in Hindi, *ku* DPs can be subjects in Lillooet. However, judgements of *ku* on subjects are uncertain, especially on subjects of transitive verbs.

- (13)a. xat'-min'-as [ku sman'x] *[ku sama7]
 hard-APPL-3ERG [D tobacco] [D white.person]
A white guy wants some tobacco. (transitive subject, LM98:194)
 b. ay t'u7 kw-s 7áts'x-en-ts-as *[ku sqaycw]
 NEG just D-NOM see-TR-1SG.OB-3ERG [D man]
 No man saw me. (transitive subject, LM98:199)
 Consultant's comment: 'With *ku*, you don't even know if there's such a man'

However, two speakers accepted *ku* on the subject of a transitive verb in the following elaborated context, indicating a dispreference rather than an outright prohibition on subject *ku*.

- (14)A: Lots of people went hunting yesterday.
 B: How many deer did the Indians shoot?
 A: ay t'u7 kw-s qus-en-itas [ku ucwalmicw] [ku ts'i7], tsukw t'u7 [i sam7=a] tsicw pix-em'.
 NEG just D-NOM shoot-TR-3P.ERG [D Indian] [D deer] finish just [D white.person=D] go hunt-INTR
 No Indians shot any deer; only white people went hunting. (LM fieldwork)

If transitive subject *ku* DPs can incorporate in Lillooet, this predicts a reading for the above sentence like 'there was no INDIAN-DEER-shooting', and this does seem compatible with the given translation. I have more to say concerning the possibility of subject incorporation below.

2.3 Lillooet incorporation

As we saw above, treating *ku* DPs as type $\langle et, et \rangle$ works straightforwardly when they are objects of middle verbs. Since middle verbs are morphologically intransitive, they are of type $\langle et \rangle$, just right to be the arguments of *ku* DPs. However, there is a type incompatibility between transitive predicates of type $\langle e, et \rangle$ and *ku* DP objects of type $\langle et, et \rangle$.

- (15) a. [pupen'=lhkan]_(et) [ku maw]_(et,et)
 find.RED-1SG.SU [D cat]
 I found [a cat]. (intransitive object, LM)
- b. cw7aoz kw-s [az'-en-an]_(e,et) [ku cwik'ten]_(et,et) / [ti cwik'ten=a]_e.
 NEG D-NOM [buy-TR-1SG.CNJ] [D knife] / [D knife=D]
 I didn't buy [any knife] / [the/a knife]. (transitive object, LM)

Dayal's theory for Hindi can be easily adapted to apply to Lillooet. I propose that while a DP headed by an assertion of existence determiner (e.g. *ti cwik'ten=a* 'the/a knife') denotes an entity of type *e*, a *ku* DP denotes a kind of type $\langle et, et \rangle$. When a *ku* DP of type $\langle et, et \rangle$ is the object of an $\langle e, et \rangle$ type transitive predicate, the predicate's direct object argument is suppressed, and the *ku* DP incorporates with the now $\langle et \rangle$ type predicate. The result of composing [az'-en]_(e,et) 'buy-TR' and [ku cwik'ten]_(et,et) 'KNIFE' would be as shown below.

- (16) a. [az'-en]_(e,et) [ku cwik'ten]_(et,et)
 '[buy-TR] [KNIFE]'
- b. [az'-en ku cwik'ten]_(et)
 'KNIFE-buy'

The result of composition here is the incorporated object-predicate complex 'KNIFE-buy', with a non-specific, narrow scope existential interpretation for 'KNIFE'.

When *ku* DP subjects compose with their predicates, on the other hand, no argument suppression is required, because the predicates will already be of the compatible type $\langle et \rangle$. This predicts the following readings for these sentences containing *ku* DPs.

- (17) a. [pupen'=lhkan]_(et) [ku maw]_(et,et)
 find.RED-1SG.SU [D cat]
 I CAT-found. / I found at least one cat. (LM)
- b. cuz' [7az'-en-as]_(e,et) [ku sts'uq'waz']_(et,et) [ku sqaycw]_(et,et)
 going.to [buy-TR-3ERG] [D fish] [D man]
 There's going to be MAN-FISH-buying. / At least one man will buy at least one fish. (LM)

A possible problem for this proposal is the transitive marking on predicates whose objects exhibit polarity *ku*. If the option is available of leaving a predicate intransitive in order to make it type-compatible with a *ku* DP, then why are predicates with object *ku* DPs ever marked transitive at all? Observe that *ku* DPs either cooccur with predicates of type $\langle et \rangle$, or are licensed by some nonfactual context. Transitivity marking in Lillooet may be taken to assert personal knowledge of the situation, and therefore make infelicitous the noncommittal determiner *ku*, unless the assertive implication of transitivity is qualified by the noncommittal implication imparted by an additional nonfactual operator.

As we have seen, a consequence of *ku*'s incorporation is the lack of specificity and reference, or the non-assertion of existence. The importance of distinguishing between personal knowledge and secondhand knowledge may be more important in Lillooet than in English, as evidenced by obligatory evidential marking in Lillooet in some contexts.

3 Consequences

3.1 Salish attributives

The table of Lillooet determiners given at the beginning of this paper shows that unlike the assertion of existence determiners, *ku* has no enclitic portion. In addition, the proclitic portion of the Lillooet assertion of existence determiners is often dropped in fast speech, and possibly in careful speech as well, leaving only the enclitic. This reinforces the view that it is the enclitic portion that is important for specificity, wide scope existential readings, and other interpretive characteristics that distinguish the assertion of existence determiners from *ku*. The enclitic portion of assertion of existence DPs might therefore be taken to correspond with argumenthood; perhaps it is the lack of an enclitic that makes *ku* DPs incorporate.

Data from some other Salish languages seems to indicate that the determiners in these languages may function similarly to *ku* when they lack their enclitic part, if any. The *attributive structure*, attested in Bella Coola, Tillamook, Lillooet, Thompson, Coast, and the Southern Interior languages, appears to utilize the normal determiner as a predicate modifier head. In languages with an enclitic portion on the determiner (e.g. Lillooet *ti..-a*, Bella Coola *ti..-tx*), there is only one enclitic per specific/referential DP, while the proclitic portion heads both specific DPs and predicate modifiers.³

- (18) a. ?alhnáp-i-lh [ti=ya ti=?imlk-tx]
 know-3S.OB-1P.SU [D=good D=man=dem]
 We know [the good man]. (Bella Coola, Kroeber 1999:75)
- b. ha-gwenexw desh-yilh-en [da=ten d(e)=xelxel]
 (?)-really PREF-find-TR [D=great D=shaman]
 Finally he found [the great shaman]. (Tillamook, Kroeber 1999:75)
- c. ats'x-en-lhkan [ta xzum=a (ku) spzuza7].
 see-TR-1SG.SU [D big=D (D) bird]
 I saw a big bird / a bird that was big. (Lillooet, LM98:211)

Lillooet *ti* is not used as a predicate modifier head like Bella Coola *ti* and Tillamook *de*, because *ku* performs that function in Lillooet. If *ku* DPs in Lillooet are indeed incorporational, the next question would be how widespread among the Salish languages is the use of determiners as predicate modifier heads, and whether the Lillooet pattern is innovative, or a preservation of an older pattern.

3.2 The Pronominal Argument Hypothesis

The Pronominal Argument Hypothesis is an idea proposed by Kinkade 1983, and articulated for Straits Salish by Jelinek & Demers 1994. Jelinek & Demers proposed that arguments of predicates in Straits Salish are saturated by (often phonologically null) pronominal clitics, and that DPs are clausal adjuncts, rather than arguments. Demirdache & Matthewson 1995 argued against extending this proposal to Lillooet. I take no position here on the Pronominal Argument Hypothesis, since my present proposal applies only to Lillooet, and I have too little information on Straits Salish to say whether or not Straits is also amenable to such an analysis.

However, my proposal would present a difficulty for extending Jelinek & Demers' analysis to Lillooet, if such a thing were attempted. The reason for this has to do with the default interpretations of Lillooet argument positions. Argument roles that are unsaturated by DPs get a specific/referential interpretation. The same argument roles, if saturated with *ku* DPs, get the non-specific interpretation that is usual with *ku* DPs.

³ The attributive structure in Thompson (Northern Interior Salish, a close neighbor to Lillooet) uses simple concatenation, or one of the particles $t \leftrightarrow k$ and $p \leftrightarrow \mathfrak{R}$ (Thompson & Thompson 1992:162). I am interested in more comparative crosslinguistic data that may bear on the historical source of the behavior of Lillooet *ku*.

$s/c'6q'w$ $t \leftrightarrow k$ $s/c' \leftrightarrow q? = \acute{e}w\mathfrak{R}$	$s/qáyx$ $p \leftrightarrow \mathfrak{R}$ $/q \leftrightarrow mút$
NOM/paper DSCR NOM/boat	NOM/man INH /hat
a paper boat	man's hat

- (19)a. cw7aoz [kw-s az'-en-an] \emptyset .
 NEG [D-NOM buy-TR-1SG.CNJ] \emptyset
 I didn't buy it. (LM)
- b. cw7aoz [kw-s az'-en-an] [ku cwik'ten].
 NEG [D-NOM buy-TR-1SG.CNJ] [D knife]
 I didn't buy any knife / *it. (LM)

This would be a difficulty for Jelinek & Demers proposal because for them, DPs are adjoined to the sentence after all argument positions have been saturated by pronominal clitics. If an unsaturated argument automatically gets a specific interpretation before the adjunction of any extracausal DPs, how is a non-specific interpretation possible for *ku* DPs?

4 Conclusion

I have proposed to extend Matthewson's 1998 analysis of *ku*-headed predicate modifiers as of type <et,et> to all *ku* DPs. I have also proposed that Lillooet DPs headed by the non-assertion of existence determiner *ku* denote kinds that either directly modify predicates or semantically incorporate with them. As a model for my incorporational analysis of *ku* DPs, I have used Dayal's 1999 incorporational proposal for Hindi bare singular NPs.

Lillooet and Hindi incorporation exhibit several similarities. Both languages have strictly semantic, as opposed to morphological, incorporation. Also, in both languages, incorporated nouns receive non-specific, narrow scope interpretations, and do not support discourse anaphora. On the other hand, some differences between the two languages are that incorporating DPs in Lillooet are not bare (i.e. usually occur with a determiner), need not be adjacent to their predicates, can be either subjects or objects, and are either animate or inanimate. A satisfactory explanation of all these differences remains to be offered.

Lastly, I have discussed the behavior of Lillooet *ku* DPs in the context of the variation seen across the Salish language family. I observed that the syntax of *ku* DPs is similar to that of the attributive construction in other Salish languages, though the clear division of functions between assertion of existence determiners and *ku* in Lillooet appears to be unique. In addition, I discussed a consequence of my proposal for the Pronominal Argument Hypothesis. However, the true significance of the crosslinguistic and historical characteristics of Salish DPs with respect to incorporation remains to be explored.

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