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Deverbal nominalizations in Ktunaxa

Abstract: This paper presents an overview on deverbal nominalizations from Ktunaxa, a language isolate spoken in eastern British Columbia, Canada. Deverbal nominalizations are formed uniformly with a left-peripheral nominalizing particle *k* (Morgan 1991). However, they do not form a single homogenous class with respect to various syntactic properties. These properties are illustrated with novel data, showing that deverbal nominalizations fall into at least two classes, which are analyzed here as nominalization taking place at either *v*P or VP, where *v*P-nominalizations include the external argument and VP-nominalizations do not. Evidence for this division comes from how possession is expressed, the interpretation of the passive (and passive-like constructions), and the licensing of verbal modifiers. As both classes of deverbal nominalizations are constructed uniformly with the nominalizing particle, these properties are derived syntactically from the size of the verbal constituent being nominalized.

Keywords: Ktunaxa; Deverbal nominalization; possession; argument structure; passive

1. Introduction

Ktunaxa (isolate, also Kutenai) is a language spoken in Eastern British Columbia, Canada, and in northern Idaho and Montana, in the United States. In British Columbia it is spoken by 31 fluent speakers across four communities (Dunlop, Gessner, Herbert, & Parker 2018). The language reported on here comes from fieldwork conducted with two speakers in the ʔaq̓am First Nations near Cranbrook, BC, and with one speaker in Vancouver, BC.

There are several early descriptions of the Kuntaxa language from Canestrelli (1894), Boas (1926) and Garvin (1948a, b, c, d). More recently, there has been an effort to document and analyse various grammatical properties of Ktunaxa (Mast 1988; Dryer 1991, 1992, 1994, 2002; Laturnus 2011; Blamire 2011; Tammpere, Birdstone & Wiltschko 2012; McClay & Birdstone 2015; McClay 2017; Bertrand 2019), though there has been little attention payed to the grammar of nominalizations. In addition to the above works, the most substantial description of Ktunaxa to date is in Morgan (1991). While Morgan does include brief discussions on subordination and nominalization in what he calls *k*-forms (Morgan 1991:124, and especially chapter 4), there is no formal discussion of their syntax. This investigation provides the first steps in filling this gap by presenting novel data bearing on the internal syntax of deverbal nominalizations and accounting for their properties.

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K-forms include questions (1a), subordinate clauses (1b), relative clauses (1c), and nominalizations (1d). In each of the examples below, the bracketed constituent is marked on the left-edge with the morpheme *k*. Examples throughout are presented in a slight variation from practical, community used orthography.[1] Unless otherwise noted, the examples in this paper were elicited by the author through grammaticality judgements on constructed examples and elicited speech with contexts supported through the use of storyboards (Burton & Matthewson 2015).

(1) K-forms in Ktunaxa[2]

a. qapsin kin ʔik
   qapsin k-hin ʔik
   what K-2.SBJ eat
   'What did you eat?'

b. sukitmunapni niʔis k sukiɬ ʔik t͡saːn
   sukitmun-ap-ni niʔis k sukiɬ ʔik t͡saːn
   make.happy-1.OBJ-IND DEM K well eat John
   'It makes me happy that John eats well.'

c. sukaxniʔsi ƛikɬis k ʔitkin aːn
   sukaxniʔ-s-i k-ʔik-iɬ-s k ʔitkin aːn
   good.taste-OBV-IND K-eat-PASS-OBV K make Anne
   'The food that Anne made tastes good.'

d. wiɬqaʔni k'it'iq'
   wiɬqa-ni k-ʔit'iq'
   big-IND K-stretch.INTRANS
   'The sweater is big.'

This paper investigates the syntax of deverbal nominalizations, such as (1d). Viewed from the outside, these forms are nominal and have the same distribution as other full DPs. However, there is some variation in their internal syntax. Morgan (1991: 305) presents one example of this: (2a) shows a deverbal nominalization with a possessor expressed with the verbal subject clitic, and (2b) shows one whose possessor is expressed with the usual nominal possessor marker. While there are a handful of such examples in Morgan's grammar, there is no discussion about why this variation arises and the examples are presented in passing.

1 Specifically, IPA symbols are used rather than orthographic <ǿ> and <ƛ> to represent the alveolar affricate /t͡s/ and the lateral fricative <ɬ>. In orthography, *k* is written as variably as a stand-alone particle or as part of the following word, generally when it precedes the subject proclitic or a pre-verb. Morgan invariably analyzes *k* as a proclitic (Morgan 2011:34–38).

(2) Possession of deverbal nominalizations

a. ku ʔiknała
k-hu ʔik-nała
NMLZ-1.SBJ eat-1.PL
'our food' (Morgan, 1991:305)

b. ka k'it'iq'
ka k-ʔit'iq'
1.poss nmlz-stretch
'my sweater'

The above contrast will be used to argue for the presence of verbal material embedded within the nominalization. The central claim I will make in this paper is that the *k* morpheme in nominalizations heads a category-changing *n*P (Marantz 1997; Wiltschko 2014) taking some level of verbal structure as its complement. Specifically, I propose that there are (at least) two sizes of *k*-form deverbal nominalizations in Ktunaxa, corresponding to VP-nominalizations and *v*P-nominalizations. As we will see, the picture that emerges is one where the varying properties of the nominalizations are derived entirely from differences in the embedded verbal structure. Under this view, the nominalizing n^0 is strictly a category-changing head.

2. Verbal structure overview

Ktunaxa has a generally free word order across major constituents, with the unmarked word order being VOS (Morgan 1991: 367). McClay (2017) presents evidence that word order is sensitive to focus, with SOV order also being common. Within constituents, however, there is a strict order of morphemes. This section overviews the basic syntactic properties of the verbal complex which are relevant for the discussion to follow. For a more complete discussion, see Bertrand (2019). The basic verb template is given in (3).

(3) Basic Verbal Template
SUBJ.PERS-(*pre-verbs*)-VERB.ROOT-(PASS/OBJ)-(SBJ.NUM)-OBV-IND

The leftmost element in the verb phrase is the subject pro-clitic, which appears with the exponents in Table 1. These pro-clitics express the person of the subject, while plural number of the subject, as well as the person and number of the direct object, is indicated as a separate suffix on the verb (see Morgan 1991: 242–244, Bertrand 2019 for discussion).

Tab. 1: Subject pro-clitics and suffixes

Person	SUBJ.PERS	SUBJ.NUM
1	hu=	-nała
2	hin=	-kił
3	∅	

Prototypically, the subject proclitics realize the external argument, which I assume is introduced in the specifier of v^0, which take a VP complement (Bertrand 2019).[3] In using the label *v*P, I would like to focus on its capacity to introduce external arguments (Chomsky 1995; also see VoiceP of Kratzer 1996). There is a vast literature on the various functions and articulations of *v* and extended verbal projections, and I do not wish to make specific claims about the verbalising or Case-checking functions of v^0, which require further investigation into the argument structure of Ktunaxa.[4] Additionally, whether roots are rather category-neutral √Ps and v^0 is a verbalizer (Marantz 1997) is a choice that is orthogonal to our concerns in this paper. As such, I will assume that verb roots are verbal VPs, use *v*P as a cover term for a verbal functional projection which introduces the external argument.

Immediately following the subject proclitic are a series of optional pre-verbal modifiers called *pre-verbs* (Dryer 2002; Morgan 1991 refers to them as (derived) adverbs). Pre-verbs are the only elements that may intervene between the subject pro-clitic and the verb root. They generally end in *-(i)ɬ* and convey a variety of meanings from temporal information to focus related information (McClay 2017: 76–86, Blamire 2011). Multiple pre-verbs are permitted (Dryer 2002).

Following the verb stem is PASS, which hosts the passive marker, *-i(ɬ)*, but also includes other voice-related morphemes such as the indefinite subject morpheme *-nam* which will be discussed below in greater detail in Section 3.2. I assume that these morphemes are realizations of v^0 (Bertrand 2019) in the sense discussed above, and will serve as important tools for developing the diagnostics for nominalizations.

The verbal obviative morpheme, *-(ʔi)s*, often functions as a switch-reference marker, and I assume following Bertrand (2019) that it is

2 The following abbreviations are used: DEM: demonstrative, IND: indicative, INST: instrumental, INTRANS: intransitive, NMLZ: nominalizer, OBJ: object, OBV: obviative, PASS: passive, PL: plural, POSS: possessive, SBJ: subject.

3 The subject proclitics do not exclusively mark external arguments. There has not yet been an in-depth investigation into the structure of unaccusative verbs, but forms such as *hu sahanni* 'I was bad' (Morgan 1991: 357) show that stative meanings typical of unaccusative verbs are marked with the same proclitic.

4 Specifically, questions such as whether Ktunaxa is a *v*/Voice-bundling language or not (Pylkkanen 2008, Harley 2017) requires further investigation, but the rich system of valency suffixes, which I do not touch upon in this paper (but see Morgan 1991: 290–308 for a catalogue of such suffixes), suggests that *v* and Voice are not bundled. This is further suggested by the co-occurrence between transitivizers and passivizers in forms such as *hun upi-ɬ-naɬat-iɬ-ni* '1.SG die-TR-1.PL-PASS-IND' "We all got killed" (Morgan 1991: 301).

introduced as I^0. As a verbal category, it appears to be sensitive to relational properties between events in a discourse. Specifically, Bertrand, Birdstone, & Wiltschko (2017) proposes that it marks disjointedness between events in terms of event participants, event time, and event location.

The rightmost element glossed as IND is the indicative marker, *-(n)i*. It occurs on all matrix contexts and is banned from all embedded contexts including all *k*-forms discussed here. I follow Bertrand (2019) in assuming that this morpheme instantiates C^0.

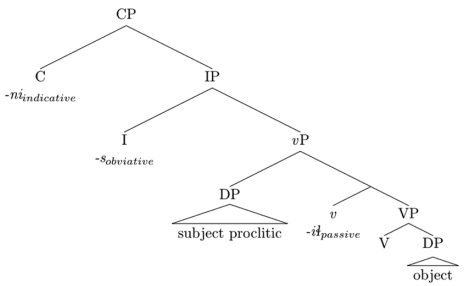

Fig. 1: Simplified clause structure of Ktunaxa.

The structure above is linearized via head-movement of the verb root through the functional projections dominating it (Bertrand 2019; cf. Dékány 2018 on an assessment of head-movement approaches to linearization). Note that each head corresponds to a suffix, and that the linear order of each suffix corresponds to the hierarchical position of its head, in accordance with the Mirror Principle (Baker 1985). The subject argument is raised to the specifier of the head occupied by the verb, generally Spec,CP in indicative clauses.[5]

3. Syntax of *k*-forms

Externally, *k*-forms have the distribution of nominal arguments as can be seen in (1) above. This section demonstrates that the internal properties of nominalizations are heterogeneous, even when restricted to deverbal nominalizations. The variation in these properties will be analyzed as the result of the point in the derivation at which nominalization occurs.

5 I do not have an account for whether this is for Case reasons or for phonological reasons. A syntactic account ultimately requires movement of subjects to Spec,CP in matrix indicative clauses, but permits them to remain low when the CP projection is absent (as I show is the case for nominalizations). A more fully articulated view of clausal syntax is necessary to resolve this question.

3.1. Possession of nominalizations

The first major distinction within the deverbal nominalizations arises from the realization of possessors. In one class of nominalizations, the possessor is realized with the normal nominal possessive morpheme, which is illustrated in the partial paradigm below. (4) shows the possessive on an inherent nominal, (5) shows the possessive on a nominalization. The full table of exponents is given in Table 2.

(4) Possession on inherent nominals

a. ka xaʔɬt͡sin		b. xaʔɬt͡sinis	c. xaʔɬt͡sinʔis
ka	xaʔɬt͡sin	xaʔɬt͡sin-nis	xaʔɬt͡sin-ʔis
1.POSS	dog	dog-2.POSS	dog-3.POSS
‘my dog’		‘your dog’	‘his/her/its/their dog’

Tab. 2: Nominal possessive morphology

	SINGULAR	PLURAL
1	**ka=**N	**ka=**N-**nałа**
2	N-**nis**	N-**nis-kiɬ**
3.PROX	N-**ʔis**	
3.OBV	N-**ʔis-ʔis**	

(5) Possessions on nominalizations

a. ka k’it’iq’ hanuhusni		
ka	k-ʔit’iq’	hanuhus-ni
1.POSS	NMLZ-stretch	be.red-IND
‘My sweater is red.’		
b. k’it’iq’nis hanuhusni		
k-ʔit’iq’-nis		hanuhus-ni
NMLZ-stretch-2.POSS		be.red-IND
‘Your sweater is red.’		
c. k’it’iq’ʔis t͡sa:n hanuhusni		
k-ʔit’iq’-ʔis	t͡sa:n	hanuhus-ni
NMLZ-stretch-3.POSS	John	be.red-IND
‘John’s sweater is red.’		

In the other class of nominalizations, the possessor is instead realized with the subject proclitic. In such examples, the subject proclitic appears to the right of the *k*-morpheme with no additional possessive morphology, as in (6).

(6) Possession with the subject proclitic

a. ku q'umnimu hanuhusni

k-hu	q'umni-mu	hanuhus-ni
NMLZ-1.SBJ	sleep-INS	be.red-IND

'My pyjamas are red.'

b. kin q'umnimu hanuhusni

k-hin	q'umni-mu	hanuhus-ni
NMLZ-2.SBJ	sleep-INS	be.red-IND

'Your pyjamas are red.'

c. kq'umnimu hanuhusni

k-∅	q'umni-mu	hanuhus-ni
NMLZ-3.SBJ	sleep-INS	be.red-IND

'His/her pyjamas are red.'

The examples in (7) show that expressing possession with nominal possession morphology as in (5) above is not possible with these forms.

(7) Nominal possessive morphology not possible

a. *ka q'umnimu hanuhusni

ka	q'umni-mu	hanuhus-ni
1.POSS	sleep-INS	be.red-IND

Intended: 'My pyjamas are red.'

b. *kq'umnimu(ʔ)nis hanuhusni

k-q'umni-mu-nis	hanuhus-ni
NMLZ-sleep-INS-2.POSS	be.red-IND

Intended: 'Your pyjamas are red.'

c. kq'umnimuʔis hanuhusni

k-q'umni-mu-ʔis	hanuhus-ni
NMLZ-sleep-INS-3.POSS	be.red-IND

Intended: 'His/her pyjamas are red.'

Similarly, example (8) shows that this strategy of exponence with the subject proclitic is not available for the forms in which the possessor is expressed with the nominal possessive morpheme (compare with (5)).

(8) Subject proclitic not possible

a. *ku ʔit'iq' hanuhusni

k-hu	ʔit'iq'	hanuhus-ni
NMLZ-1.SBJ	stretch	be.red-IND

Intended: 'My sweater is red.'

b. *kin ʔit'iq' hanuhusni

kin	ʔit'iq'	hanuhus-ni	
NMLZ-2.SBJ	stretch	be.red-IND	

Intended: 'Your sweater is red.'

c. *k'it'iq' t͡sa:n hanuhusni

k-∅	ʔit'iq'	t͡sa:n	hanuhus-ni
NMLZ-3. SBJ	stretch	John	be.red-IND

Intended:'John's sweater is red.'

The generalization that emerges is that deverbal nominalizations fall into two classes, based on how the possessor is expressed. What drives this division? Consider some of the verbs whose nominalization expresses possession with the verbal subject proclitic.

Tab. 3: *Possession Strategies for various verbs*

NOMINAL POSSESSION		SUBJECT PRO-CLITIC POSSESSION	
K-NOMINALIZATION	CORRESPONDING VERB	K-NOMINALIZATION	CORRESPONDING VERB
k'it'iq' 'sweater'	ʔit'iq' 'stretch.INTRANS'	kq'umnimu 'his/her/its pyjama'	q'umni 'to sleep'
kamak't͡si 'orange (fruit)'	hamak't͡si 'be orange'	kyawkɬit͡s 'his/her/its bed'	yawkɬit͡s 'to lie on top'
kanuhusnana 'apple'	hanuhus 'be red'	ki?ik 'his/her/its food'	ʔik 'to eat'
kawisxu 'banana'	hawisxu 'hang'	kqa:xni:muɬ 'his/her/its apron'	qa:xni 'to cover'

In Table 3, there are two key take-aways. First, the referent of these nominalizations corresponds generally to the theme or other internal argument of the verb from which the nominalization is derived (on the instrumental suffix *-mu*, see section 3.3.). The possessor, when expressed as a subject pro-clitic, can be construed as the agent of the embedded event, or syntactically, the external argument of the embedded verb introduced by *v* (Chomsky 1995, cf. VoiceP of Kratzer 1996). That is, for a form like *ki?ik* 'food', a more faithful paraphrase would be "thing that he/she/it eats", with the agent of eating being interpreted as the nominal's possessor. This suggests an analysis such as Figure 2, where such a possessor is introduced in Spec,*v*P as in a clausal context. The internal argument *e* serves as the referential argument, or R-argument (Williams 1981), for the whole nominalization.

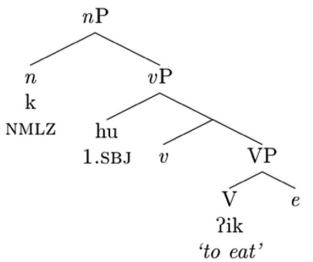

Fig. 2: Possessor is introduced in Spec,vP.

This analysis also predicts that the nominalizations of intransitive (unaccusative) verbs in which the possessor cannot be understood as the agent of the embedded event will not allow the possessor to be expressed with the subject proclitic. This prediction is borne out, as can be seen in (5, 8) above, as well as below in (9).

(9) Possessor cannot be the agent of the embedded eventuality

a.	ka	kamak'ʧi	b.	ka	kanuhusnana
	ka	k-hamak'ʧi		ka	k-hanuhus-nana
	1.POSS	NMLZ-be.orange		1.POSS	NMLZ-be.red-DIM
	'orange (fruit)'			'apple'	

These cases of nominalization are straightforwardly analyzed as a VP-nominalization, with the possessor introduced in a nominal projection parallel to the possession of an inherent nominal, external to the nominalizer. Crucially, these nominalizations exclude the external argument introducing *v*P. This is modelled here as a PossP projection, with the possessor in Spec,PossP. Again, the referential argument of the whole nominalization is the internal argument *e* of the verb.

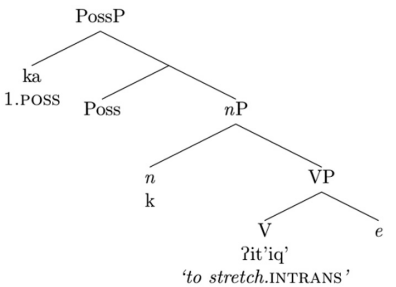

Fig. 3: Possessor is introduced in Spec,PossP.

The above discussion draws a picture of two mutually exclusive classes of nominalizations, distinguished by the level at which the nominalizer is introduced. This recalls Abney's (1987) analysis of English gerunds, where the

difference in where the eventive agent is expressed in *of-ing*, POSS-*ing*, and ACC-*ing* gerunds. In Ktunaxa, however, the crucial variation lies not in where the semantic agent of the embedded verb is expressed, but rather how the grammatical subject of the embedded verb is interpreted: in nominalizations the external argument can be interpreted as the possessor.

There are, however, a small number of forms which permit both possessive strategies, given in (10).

(10) (i) Possessive Morpheme and Proclitic permitted

a. ka k'ałmałuma haqmaxunisni

ka	k-ʔałmałuma	haqmaxusn-is-ni
1.POSS	NMLZ-have.deep.voice	scare-2.OBJ-IND

'My deep voice scares you.'

b. ku ʔałmałuma haqmaxunisni

k-hu	ʔałmałuma	haqmaxusn-is-ni
NMLZ-1.SBJ	have.deep.voice	scare-2.OBJ-IND

'My deep voice scares you.'

Following the analysis above, the possessor is introduced after the nominalization in Spec,PossP (10a) or before the nominalization in Spec,*v*P (10b). While I have no account for why these verbs specifically permit nominalization at both *v*P and VP, my consultant noted a slight interpretive difference in the forms in (10) – (10a) is somewhat more direct and could potentially be seen as insulting or derogatory in the third-person, an interpretation which is absent in cases such as (10b).

The second key take-away from Table 3 is that the k-nominalizations which take subject pro-clitic possessors are all interpreted as possessed by a contextually salient third-person. Recall that the third-person subject proclitic is phonologically null. While these forms appear morphologically similar to the k-nominalizations which take nominal possessive morphology, they are distinguishable semantically in that the third-person possessor interpretation is obligatory. To derive an interpretation where the subject proclitic possessor k-nominalization is unpossessed, additional morphology is required. We turn to this immediately in the next section.

3.2. Passives, Indefinite Subjects, and Unpossessed k-forms

As noted, nominalizations which include the subject proclitic are obligatorily interpreted as possessed. This is unsurprising, given that the third-person subject proclitic is phonologically null, and that these nominalizations were proposed to include *v*P and the external argument.

(11) Possessive interpretation obligatory
ki?ik
k-Ø-?ik
NMLZ-3.SBJ-eat
'his/her/their food'
#'food'

An "unpossessed" interpretation requires additional morphology. This takes the form of the passive morpheme, *-(i)ɬ*. Presence of the passive morpheme precludes the appearance of overt subject proclitics (12b).

(12) "Unpossessed" interpretation requires the passive

a.	k'ikiɬ	b.	*ku ʔikiɬ	
	k-ʔik-iɬ		k-hu	ʔik-iɬ
	NMLZ-eat-PASS		NMLZ-1.SBJ	eat-PASS
	'food/someone's food'		Intended: 'my food'	

The scare quotes on "unpossessed" are due to (13), which shows that the passive does not straightforwardly refer to a referent with no possessor. If this were the case, there would be no reason why nominal possession couldn't apply regularly to these derived nominals. In other words, the passive is doing more than "removing" the external argument from the derivation.[6]

(13) No nominal possessive on passive nominalizations
a. *ka k'ikiɬ

ka	k-ʔik-iɬ
1.POSS	NMLZ eat-PASS
Intended: 'my food'	

6 There are, however, some forms which occur with the passive and the nominal possessive morpheme. These are potentially problematic under the analysis developed here. One possibility is that these are lexicalized vP_{Pass} nominalizations. Morgan (1991) discusses a contrast between lexicalized nominalizations and ad-hoc nominalizations, though he does not present any diagnostics or examples in reference to this contrast. I leave accounting for these forms and their relationship to those discussed in the body of this paper to further research.
(i) Passive nominalizations, but allows nominal possessive morpheme

a. ka kaqkt̂muɬ hanuhusni

ka	k-haqkt̂-mu-ɬ	hanuhus-ni
1.POSS	NMLZ-swim-INSTR-PASS	be.red-IND

'My swimsuit is red'

b. *ku haqkt̂mu hanuhusni

ku	haqkt̂-mu	hanuhus-ni
K-1.SBJ	swim-INSTR	be.red-IND

Intended: 'My swimsuit is red'

Bertrand (2019) analyses the passive morpheme *-(i)ɬ* as a v^0 head which, as we have seen above, introduces the external argument in its specifier. The presence of the passive is in these nominalizations is predicted, then, from their inclusion of *v*P. I assume that passive v^0 is distinct from active v^0 in that, rather than introducing an external argument, it existentially closes it (see Breuning 2013). The ungrammaticality of (13) follows from this: the passive does not exclude the external argument but rather existentially quantifies over it and makes its position unavailable for the introduction of other referents. Possession with nominal possessive morphology is not available because these forms are already possessed, but with an existentially-bound indefinite, introduced by passive v^0.

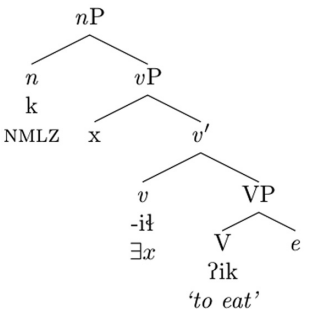

Fig. 4: *The passive in vP-nominalizations.*

The passive in Ktunaxa is restricted to transitives. In the case of nominalization of intransitive verbs, there is an indefinite morpheme which functions similarly to the passive. I assume that these are also instances of v^0 and existentially close the external argument in the same way as the passive.

(14) Indefinite subject marker for intransitive vP-nominalizations

a. kyawkɬiʃnam
k-yawkɬiʃ-nam
NMLZ-lie.on-INDEF
'bed'

b. *ku yawkɬiʃnam
k-hu
NMLZ-1.SBJ
Intended: 'my bed'

c. *ka kyawkɬiʃnam
ka kyawkɬiʃ-nam
1.POSS lie.on- INDEF
Intended: 'my bed'

In a derived sense, then, *v*P-nominalizations are inalienable. Due to the inclusion of the external argument introducing *v*P, there is necessarily some argument which is interpreted as the possessor, whether that argument be expressed by the subject proclitic or existentially closed by the passive.

For VP nominalizations, an indefinite possessor marker is possible which is identical to the indefinite subject marker of intransitives.[7] Note, however, that in these examples the indefinite marker is not obligatory for the unpossessed reading – rather, the indefinite marker here is introduced after the nominalization in Poss^0.

(15) VP nominalizations with the indefinite morpheme marking possession

a.	k'it'iq'	b.	k'it'iq'nam
	k-ʔit'iq'		k-ʔit'iq'-nam
	NMLZ-stretch		NMLZ-stretch-INDEF.POSS
	'sweater'		'someone's sweater'

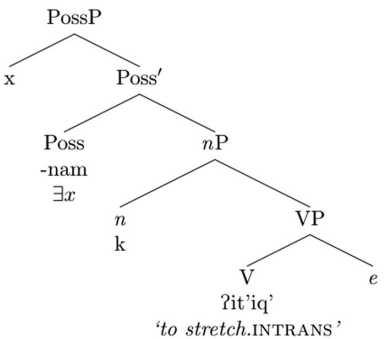

Fig. 5: *-nam introduced above nP interpreted as indefinite possessor.*

3.3. Instrumental readings

Returning briefly to some forms which express their possessor with the subject proclitic, there are several forms which include an additional instrumental morpheme, *-mu*, as in (16a). These are used quite productively in mechanical parts, such as car parts, or tools. Note that all these nominalizations naturally induce an instrumental reading, given the presence of the instrumental morpheme. Crucially, this morpheme is verbal, as can be seen in (16b).

(16) Instrumental morpheme in nominalizations

a.	kq'umnimuɬ	b.	q'umnimu
	k-q'umni-mu-ɬ		q'umni-mu
	NMLZ-sleep-INST-PASS		sleep-INST
	'pyjamas'		'to sleep with (something)'

7 Thanks to an anonymous reviewer for suggesting the following line of analysis.

This shows that the referent of *k*-form deverbal nominalizations is not restricted to theme arguments but can be modulated by the presence of other verbal arguments. In other words, the assignment of the R-argument is not mediated by the nominalizing head but rather by the embedded verbal structure.

This resembles reference assignment in Blackfoot clausal nominalization, which does not have a consistent reference and whose referent is necessarily internal to the nominalized constituent (Bliss 2014). The argument that acts as the referent depends on the cluster of properties exhibited by the embedded clause. Blackfoot, however, has multiple types of nominalization and in fact has two dedicated nominalizers with consistent referent assignment: "abstract" or process nominalization with *-hsin*, and instrumental nominalization with *-a'tsis* (Bliss 2014; Wiltschko 2014; Ritter 2014). In Ktunaxa, nominalizations are all accomplished through *k*, which nominalizes its complement (nominalization-via-complementation in Wiltschko 2014).

I will leave a formal account of nominalization referent-assignment in Ktunaxa along the lines of Bliss (2014) for Blackfoot to future work. Informally, the presence of verbal argument-introducing morphemes (see Morgan 1991: 309–314 for more on these "involvement suffixes") modulates which argument functions as the referent for the nominalization. Given the position of the instrumental morpheme specifically, one possible line of analysis is that the highest verbal argument is the referent. This raises certain difficulties, however. Despite being present in *v*P nominalizations, external arguments are not candidates for the referent for cases discussed here, as in *ki?ik* 'food'. Further, Ktunaxa does have agent nominalizations, such as *k'anam* 'hunter' (< *a?nam* 'to hunt'), which appear to contradict any analysis where the external argument is categorically excluded from referent assignment. I leave this for future research.

3.4. Preverbal Modifiers

The final piece of evidence for the contrast between *v*P and VP nominalizations is the presence of verbal modifiers, known as pre-verbs verbs (Dryer 2002; Blamire 2011; Morgan 1991: 33 refers to them as derived adverbs). These pre-verbs, as expected from their name, occur linearly before the main verb stem but following the subject proclitic. They serve various semantic functions, including subject focus (McClay 2017: 76–86) and contributing temporal or aspectual information. For a more elaborate description, see Dryer (2002).

Syntactically, they are a verbal category. A precise characterization of their syntactic position, and whether they are best analyzed as adjuncts or

instances of high verbal functional projections, is uncertain. However, what is crucial for the purposes of this paper is that they are restricted to verbal environments, and thus serve as a useful diagnostic for verbal material. Consider the forms below, which are the nominalizations discussed in (10) that allow either the subject proclitic or the nominal possessive strategy for expression possession.

(17) Covariation of possession strategy and preverb compatibility

a. Tanwał huɬpaɬni **k isiɬ aɬmaɬumas t͡san**

Tanwał	huɬpaɬ-ni	k	isiɬ	aɬmaɬuma-s	t͡san
Daniel	hear-IND	NMLZ	very	deep.voice-OBV	John

'Daniel heard John's very deep voice'

b. * Tanwał huɬpaɬni **k isiɬ aɬmaɬuma?is t͡san**

Tanwał	huɬpaɬ-ni	k	isiɬ	aɬmaɬuma-?is	t͡san
Daniel	hear-IND	NMLZ	very	deep.voice-3.POSS	John

Intended: 'Daniel heard John's very deep voice'

When the possessor is expressed as the subject proclitic, which is null in (17a) but co-occuring with the overt DP *t͡san* 'John', the result is grammatical. When the possessor is expressed through the nominal possessive morpheme (17b), the result is ungrammatical. This is predicted by the analysis above. If preverbs are high clausal adjuncts, at least higher than *v*P, then the lack of this projection in (17b) precludes preverbs by cutting off the clausal spine before they are licenced.[8]

4. Conclusion

I have shown that Ktunaxa deverbal *k*-nominalizations fall into two classes based on syntactic evidence from the realization of possessors, the presence of passives and other verbal morphology on the embedded verb, and the presence of verbal modifiers. These classes of deverbal nominalizations appear with a cluster of properties that suggest the presence of an external argument introducing a *v*P projection. Possessors introduced within this projection surface with the same morphology as verbal subjects. The passive is another instance of v^0 and forms "unpossessed" *v*P nominalizations – these

8 In the above examples (16), the obviative morpheme appears. While this suggests that the nominalization takes place much higher, at IP (see Bertrand 2019 for the obviative morpheme as I^0), I will leave this issue for further research as I lack the necessary data beyond the obviative morpheme, as well as lacking an account of the obviation system itself. An alternative analysis is that the form in (16a) is a subordinate clause. What is crucial for our purposes is the presence or absence of *v*P, which the preverbs allow us to determine.

are analyzed as being possessed by an indefinite third-person. Finally, additional argument-introducing verbal morphemes and verbal modifiers in nominalizations co-occur with the *v*P-level property of expressing possession with the verbal subject proclitic.

These properties have not been discussed in the description on Ktunaxa's nominalization system in Morgan (1991). The data and discussion presented here forms the first steps toward a more detailed picture of the Ktunaxa's ubiquitous *k*-forms. This emerging picture from deverbal nominalizations is that the *k* morpheme serves only to nominalize its complement. Under Wiltschko's (2014) typology of recategorization strategies, Ktunaxa's *k* is the realization of the nominalization via complementation head n^0, which takes various functional projections (here, VP and *v*P) as complements. The syntactic properties of these nominalizations are derived entirely, then, from the internal structure of *n*'s complement.

An important remaining question is how other *k*-forms (presented in (1)) are to be analyzed under such a proposal. If *k*-forms are all *n*Ps, then how are we to treat questions, subordinate clauses, and relative clauses? In her work on the verbal functional projections of Ktunaxa, Bertrand (2019) analyzes *k* as a realization of C^0 due to its role in subordination and its complementary distribution with respect to the indicative marker. However, an analysis of these constructions as fundamentally nominalizations, taking seriously the fact that *k* is present in all these constructions, could provide a unified analysis of these various constructions, as well as contribute to the large body of literature on the relationship between nominalizations and clausal constructions (see Introduction and papers in Zariquiey, Shibatani, & Fleck 2019, Comrie & Estrada-Fernández 2012). The view from deverbal nominalizations provides the first look at the possible complements of the Ktunaxa nominalizer and the properties these constructions yield and will form a foundation for investigating the structure of *k*-forms more broadly.

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