

RESEARCH

A syntax for semantic incorporation: generating low-scope indefinite objects in Inuktitut

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The range of scope readings for Inuktitut nominal expressions appears superficially to depend on the verbal morpho-syntax, with noun incorporation and antipassive inflection both playing a role. A new model is presented in which the syntactic role played by agreement features in Case theory is unified with the absence of a choice functional D in the semantic interpretation. For both, a phase-level D-deletion operation ensures the correct results. The model is shown to account for the scopal properties of nominals in a range of contexts larger than the literature typically considers, including incorporation of predicational, locational, and locative nouns, and non-modalis-marked arguments of non-antipassive verbs.

Keywords: Inuktitut; morphosyntax; incorporation; antipassive; specificity; labeling; Case; person features

1 Introduction: the problem of indefiniteness in Inuktitut

As already carefully documented in the literature, bare nominals in Inuktitut exhibit a tight correspondence between the syntactic context in which the noun appears and its semantic scope. This pattern is illustrated in (1)–(2). Incorporated objects (1) and objects of antipassivised verbs (2) are obligatorily construed as narrow-scope indefinites:^{1,2,3}

- (1) *South Baffin Inuktitut*
Pani-qaq-tunga
daughter-have-PART.[-TR].1SG.ABS
'I have a daughter/daughters.'
- (2) Akittiq **iqalung-mik** taku- \emptyset -nngit-tuq
A. (ABS) fish-MOD see-AP-NEG-PART.[-TR].3SG.ABS
i. 'Akittiq didn't see any fish.'
ii. #'There is a particular fish that Akittiq didn't see.'

¹ Unless otherwise noted, all examples come from fieldwork conducted with Southern Baffin Inuktitut speakers in Iqaluit and Inuttut speakers in Labrador, and we are especially grateful to Papatsi Kublu-Hill and Selma Jararuse for providing additional elucidations and insights into their languages.

² As we show below, and as has been discussed in Johns (1999; 2007; 2009), the former does not universally hold of objects incorporated into all types of incorporating verbs, and the latter is subject to dialectal variation.

³ In most of the examples in this paper, the antipassive morphology is realised with null-morphology. Positing null morphology, as we do here, appears to be a necessary component of any analysis seeking to characterise the different syntactic and semantic characteristics of antipassive and fully syntactically transitive verbs. In this respect, we align ourselves with Bittner (1994a), as well as with a large body of literature which discusses the cross-linguistically stable properties of antipassive constructions. (See Polinsky (2017) for an overall survey).

In contrast, objects of non-incorporating verbs which have not undergone antipassivisation are obligatorily interpreted as what Fodor & Sag (1982) called ‘specific’: (3). In this respect, they pattern with both absolutive and ergative subjects, which also allow only for a wide scope interpretation of bare nominals:⁴

- (3) Akitti-up **iqaluk** taku-nngit-taa
 A. -ERG fish (ABS) see-NEG-PART.[+TR].3SG.ERG.3SG.ABS
 i. #‘Akittiq didn’t see any fish.’
 ii. ‘There is a particular fish that Akittiq didn’t see.’
- (4) a. Suli arnaq iqalung-mik taku-∅-nngit-tuq
 still woman(ABS) fish-MOD see-AP-NEG-PART.[-TR].3SG.ABS
 i. ‘There is a woman who hasn’t seen any fish yet.’
 ii. #‘No woman has seen any fish yet.’
- b. Suli arna-up Miali taku-sima-nngit-tanga
 still woman-ERG M.(ABS) see-PERF-NEG-PART.[+TR].3SG.ERG.3SG.ABS
 i. ‘There is a woman who hasn’t seen Mary yet.’
 ii. #‘No woman has seen Mary yet.’

In fact, bare indefinites bearing absolutive Case (objects of non-antipassivised transitive verbs and subjects of intransitive verbs) are consistently construed with the widest-scope, even out of islands, as evidenced by the non-availability of an intermediate-scope reading of the relevant indefinite in (5):⁵

- (5) Ilisaiji-limaa-t aittarusuk-kajaq-tut **ilinniaqti**
 teacher-all-ABS.PL be.disappointed-would-[-TR].3PL.ABS student (ABS)
 nuqqaq-pat
 quit-COND.3SG.ABS
 ‘every teacher will be disappointed if a student quits’
 i. ‘There is one student, who every teacher doesn’t want to see quit.’
 ii. #‘For each teacher, there is one student who (s)he doesn’t want to see quit.’
 iii. #‘Every teacher will be disappointed if any student quits.’

⁴ As will become clear, when we use the term *wide scope* in this paper, we do so as a convenience. What we are really asserting in the relevant cases is what Kratzer (1998) refers to as pseudoscope effects.

⁵ While most variants of Inuktitut behave as describe here, with obligatory narrow scope for antipassive objects, speakers of Labrador Inuttut often report semantic judgments following a different pattern. Johns (2006: orthography adapted) provides the examples in (i), which illustrate the difference.

- (i) *Labrador Inuttut*, (a), and *Rigolet Inuktitut*, (b)
- a. Margarita quinatsu-i-juk Ritsati-mik.
 Marguerite tickle-AP-3SG Richard-MOD
 ‘Marguerite is tickling Richard.’
- b. Nancy angka-li-mmat aklaa-gulak iksiva-juk qaksi-taa-gulang-mi,
 Nancy(ABS) home-PROG-because.3SG black.bear-dear(ABS) sitting.3SG hillock-get-dear-LOC
 iksiva-ju qaksi-taa-gulang-mi Nancy-mik tautuk-tuk.
 sitting-3SG hillock-get-dear-LOC Nancy-MOD look.at-3SG
 ‘... if Nancy was coming home, the young black bear would be sitting on a little hill, sitting on the little hill, watching Nancy’

In both of these examples, a proper noun functioning as an antipassive object appears with modalis Case, but the interpretation of the noun is not property-like. The modalis names simply refer to specific individuals, in the normal way for proper nouns.

Johns takes such interpretations as evidence for ongoing diachronic change in eastern varieties of Inuktitut, where grammatical restructuring is giving rise to a new nominative/accusative system. In that case, these data do not contradict what we propose for the more conservative varieties.

There are thus two principal issues to address in the interpretation of Inuktitut indefinites: the cause of obligatory apparent wide-scope in the direct Case-marked nominals, and the source of obligatory narrow scope in incorporated and antipassive objects.

These patterns cannot be explained by treating Inuktitut bare indefinites as kind terms. Kind-denoting terms are expected to scope low, relative to sentential operators (Carlson 1977; Chierchia 1998). As we have already seen, however, the canonical bare indefinite in the language—absolutive arguments—consistently have the appearance of scoping high.⁶ Nor is it possible to coerce any type of (sub-)kind-level reading for a(n) (bare) incorporated noun in the language. Consider the sentence in (6):⁷

- (6) *Labrador Inuttut*
 Holda tii-tu-kqau-ngit-tuk
 Holda tea-consume-NPST-NEG-PART.[-TR].3SG.ABS
 ‘Holda didn’t drink tea.’

The utterance in (6) is judged to be incompatible with a situation where one is hoping to explain that Holda didn’t drink any currant tea, even though she is drinking some orange pekoe tea, even in a context where such a reading would seem to be felicitous. The sentence is only judged to be (truthfully) compatible with a context in which Holda didn’t drink any tea whatsoever. While we do not disagree that an understanding of bare nominals in some languages as kind terms has provided cross-linguistic insights⁸ it is not apparent that such an approach has anything to tell us about the facts of Inuktitut. See Van Geenhoven (2000), Van Geenhoven & McNally (2005) and Gillon (2012) for further consideration of these matters.⁹

The narrow-scope indefinite interpretations found in noun-incorporation and modalis objects instantiate patterns which are widely attested, crosslinguistically. Incorporated nouns are indefinite in many languages (Bittner 1994a; Baker 1988; Carlson 2006; Massam 2009), so the interpretation of Inuktitut (1) is in itself not remarkable. And many languages associate specific syntactic contexts or specific Case-forms for objects with indefiniteness. The literature on ‘pseudo-incorporation’ includes many cases where bare objects must be indefinite (Bittner 1987; Chung & Ladusaw 2003; Massam 2009; Dayal 2011; Espinal & McNally 2011), and the parallel body of work on ‘partitive Case’ does the same (Belletti 1992; Lasnik 1992; Kiparsky 1998; Luraghi 2003). Inuktitut is typologically uncommon because it employs two distinct mechanisms to the same end: incorporation and modalis Case-marking.¹⁰ But what makes Inuktitut bare nominals particularly significant for exploring the relationship between syntax and semantic scope is the set of regular

⁶ Additionally, the sentence in (i), offered as a possible translation of the English “Northern curlews are extinct” is not accepted by any speaker as anything other than markedly odd:

- (i) *South Baffin Inuktitut*
 Aqqunaqsiu-t qamit-tut.
 northern.curlew-ABS.PL be.extinct-PART.[-TR].3PL.ABS

Consultants comments, such as “Which ones?”, clearly indicate that they wanted to interpret *aqqunaqsiut* as individual-denoting, having difficulty combining that with a kind-level interpretation for the predicate.

⁷ To the extent that a standard Roman orthography exists for the dialects of Inuktitut in the eastern Arctic, we adopt it here. For consistency in the presentation of the data, we make use of this orthography for Labrador Inuttut, as well, although a different Roman orthography is more commonly made use of there.

⁸ See, for example, many of the papers in Borik & Gehrke (2015).

⁹ Baker (2014) attempts a more general synthesis of the pseudo-incorporation literature. This more ambitious program, along with his critique of previous work, is insightful, although his own proposal does not appear to suit the Inuktitut patterns particularly well.

¹⁰ Incorporation and modalis marking do not operate in free variation, because Inuktitut incorporation is only permitted with a restricted set of verbal roots, which also enforce incorporation.

exceptions to the general rule. Sometimes, noun incorporation does permit the incorporated noun to be interpreted as specific:¹¹

- (7) *Labrador Inuttut*
- a. Louisa-u-vunga
L.-be-IND.[-TR].1SG.ABS
'I'm Louisa'
 - b. Illu-mi-i-juk.
house-LOC-be-PART.[-TR].3SG.ABS
'(S)he's in a (specific) house.'
 - c. John illu-nga-nu-u-juk.
John(ABS) house-3SG.PR/SG.PM-DAT-be-PART.[-TR].3SG.ABS
'John is going into his house.'

A similar interpretive flexibility is found with independent nominals which function like PPs, as in (8).

- (8) *South Baffin Inuktitut*
- Nunaling-mi nuna-qa-lauq-sima-nngit-tuq
settlement-LOC land-have-PST-PERF-NEG-PART.[-TR].3SG.ABS
- i. 'There is a (certain) town that (s)he hasn't lived in'
 - ii. '(S)he has never lived in any town'

These “exceptions” to the general pattern have been little noted in the literature to date, so part of our task here will be to present a thorough characterisation of the contexts in which both wide and narrow scope interpretations are possible.

Our broader goal in this paper is to provide a principled theoretical account of these patterns—one which covers both the familiar cases and the apparent exceptions. Our model exploits a technical proposal (C-deletion) in Chomsky (2015) to ensure that the distribution of wide scope indefinites matches the distribution of structural (ergative and absolutive) Case-assignment, and that narrow scope indefinites appear elsewhere. The pattern of exceptions in (7)–(8) is then shown to reflect the greater derivational freedom which arises in specific contexts where Case is not an issue.

Broadly speaking, there are three general approaches that one might pursue in attempting to explain the relevant facts of Inuktitut. First, one might suppose an approach like that of Chierchia (1998), which has seen substantial development in the work of, among others, Dayal (1999; 2004) and Bošković (2008), positing cross-linguistic variation in the (inherent) semantic type of nouns, together with basic semantic operations that can shift the type of NP. Indeed, Johns (2007; 2009) has advanced the argument that Inuktitut nouns are invariably born as referential expressions.¹² Second, one might suppose, following Partee (1987), that nouns are universally born as properties of individuals, but that principled type-shifting operations can derive other types for the indefinite, as needed. Such an approach has been elaborated by Diesing (1992), and—a flavour thereof—by Chung & Ladusaw (2003). Third, one might suppose the more “traditional” Kamp (1981) and Heim (1982) view that nouns are uniformly non-quantificational, and

¹¹ We return to the discussion of proper names in Inuktitut in section 3.2.

¹² An anonymous reviewer suggests a more nuanced version of this approach. Given the proposal (Johns & Kucerová 2017; Yuan 2018) that verbal agreement morphology in Inuktitut is actually pronominal clitics, one might suppose that wide scope for ergative and absolutive arguments comes from the properties of associated pronouns. But this approach fails to generalise to all the cases we consider here, and particularly to the incorporated copular and prepositional objects discussed in section 4.

that other readings must arise via additional mechanics. This last is the perspective we adopt, specifically defending the position of subsequent developments in Stowell (1991), Longobardi (1994), and Heim & Kratzer (1998), among others, that nouns are universally born as properties of individuals and that any *e*-type reading must be mediated by additional syntactic structure. We demonstrate that the types of interpretations available to indefinites in the language are corollaries of observable syntactic configurations, thereby eliminating the need for covert type-shifting operations in the semantics (as required by Bittner 1987). In this, we are adopting a conception of Logical Form (LF) which follows in the spirit of what Beck (1996), von Stechow (1996), and von Stechow (2000a) call “Transparent LFs”, which minimally require that LFs are determined by the syntax proper and that each LF determines a single (unambiguous) meaning (*modulo* context).

The central proposal which we advocate is that the D, the head of DP, is *deleted* in specific contexts, given the labelling theory of Chomsky (2013; 2015); D-deletion results in a semantically sensible output only as long as the semantic content of the appropriate predicate compensates for the deletion by providing a variable to which a nominal predicate can apply. The obligatory very narrow scope found with many incorporated nouns and antipassive objects is a consequence.

The vision which guides this study is that semantic interpretation should be just that: interpretation. Pragmatics and processing issues aside, the role of a semantic theory should be to characterise the mapping from the structures that the syntax produces into whatever is accessible on the meaning side of the LF/C-I interface. Semantic rules should not themselves operate on syntactic structures to produce new grammatical entities. One module of the grammar which has access to structure-altering operations should be sufficient.

It follows that if there are aspects of the meaning which are substantially altered on the basis of what is present in the local grammatical environment, it should be the syntactic derivation which determines these, and semantic interpretation should simply accept them and find whatever interpretation is appropriate. And since our empirical focus in this paper is precisely aspects of the meaning of indefinites which have that character, our analytic goal is to identify how the syntactic derivation ensures these results.

The advantage of an analysis in which the syntax and semantics are both implicated is that it provides a rubric from which departures from the general pattern may be examined. This is what will allow us to develop a principled account for the class of incorporating verbs in which the scopal opportunities are wider.

2 The claims

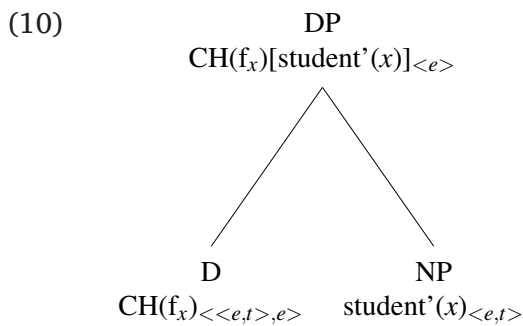
The account we present starts from three general premises. First, we maintain that all bare nominals in Inuktitut originate as full DP categories, in which D is a phase head in the sense of Chomsky (2001; 2013; 2015). (The asterisk notation employed in (11), *passim* indicates the phase head status of the head it marks.) The significance of D for this model will become clear as the technical mechanisms are elucidated, but there are fairly concrete reasons to make this assumption in the first place. One involves the role played by agreement features in phase theory, following Chomsky (2008). Agreement features are introduced in a phase head as unvalued ϕ features, and they are then transferred to the complement of the phase head through the Feature Inheritance operation. This account must be applicable to agreement generally, including agreement which takes place inside nominals between a possessor and a possessed noun. In Inuktitut, possessor agreement of this type is obligatory, which means that nominal phrases must always be phasal DPs—otherwise, there would be no initial source for the unvalued ϕ features which are realised in the nominal morphology. What is more, possessor agreement takes place both in

wide-scope (ergative or absolutive) indefinite nominals and in narrow scope (modalis) indefinites; both must therefore include a D phase head, at least at an early point in the derivation.¹³

Second, (silent) D in Inuktitut is always interpreted as a choice function at the Conceptual-Intentional interface. Specifically, we adopt Wharram’s (2003) conclusion that NPs in Inuktitut are selected by (phonetically null) indefinite determiners which introduce variables over choice functions (Reinhart 1997; 2006; Winter 1997; Heim & Kratzer 1998; Matthewson 1998). Von Stechow (2000b: p. 196) provides an effective definition of this type of choice function as (9).

- (9) Let f be of type $\langle \langle e,t \rangle, e \rangle$. f is a choice function iff (a) and (b) hold:
- a. $P(f(P))$ if P is non-empty.
 - b. $P(f(P)) = *$ if P is empty.
- Where $*$ is an object not in any semantic domain.

That is, we assume the simplest type of choice function, one that (potentially) assigns to a non-empty set of individuals a member of that set. Under this approach, the relevant indefinite in (5) would have the simple structure indicated in (10).



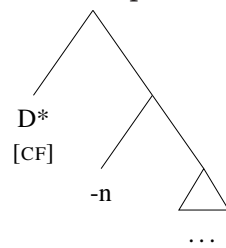
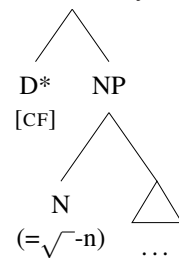
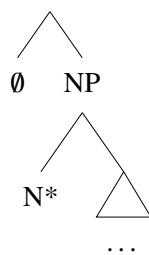
As a further (significant) technical detail, we also accept the conclusion of Kratzer (1998; 2003) that the variable which a choice function introduces remains free at LF, and that its interpretation is contextually determined. That is, choice functions are not syntactic features, and nor are they interpreted at LF. As a consequence, choice functions are not transferrable, and deletion of D, as discussed just below, does not eliminate LF-relevant material.¹⁴

Third, as a phase head, D can transfer its formal features to the head of its complement. Features which have been transferred are recoverable, so feature transfer sets up a syntactic context in which D can be freely deleted, and the head of its complement then becomes the new head of the phase.¹⁵

¹³ We note that our analysis here provides independent evidence for the argument in Compton & Pittman (2010) that D (and C) are the active phase heads (for word formation) in Inuktitut.

¹⁴ We are grateful to an anonymous reviewer, who, in expressing concern that the syntax proposed here now has the power to delete something that has an effect at LF, obliged us to clarify why this is not the case.

¹⁵ Two anonymous reviewers observe that these nominal structures seem inconsistent with models in which D and the noun are separated by other functional categories, such as Harley and Ritter’s (2002) Num. We appreciate the importance of cartographic studies which posit such extra content in the phrase marker, but the work presented here starts from phase-theoretic premises, and, as is often noted, phase theory and cartographic analysis have not yet been successfully reconciled (Shlonsky 2006; Roberts 2012; Branigan To appear). In the absence of such reconciliation, we adopt a working strategy of setting aside additional cartographic structure, for now.

(11) a. *Initial DP phase*b. *Phase-end full DP* (→ wide scope)c. *Phase-end diminished nominal* (→ narrow scope)

(In (11a), the *-n* head is “little *n*”, the categorising functional head which combines with an acategorial root. For expository convenience, we represent the structure of a root combined with *-n* simply as *N*, in (11b) and henceforth.)

The effect of D-deletion is that the choice function is eliminated from the semantic interpretation, and the nominal denotes a predicate only. Wide scope, then, automatically reflects the presence of the choice-functional variable in *D*. Conversely, D-deletion produces a structure for which some compensatory material must be available to produce a semantically coherent result.

The known contexts in which the narrow scope readings are available indicate at least some of the conditions under which the predicate nominal can have the variable of which it holds both introduced and bound. Incorporating verb stems and antipassive verb forms both apparently provide the necessary compensation. In fact, the extra semantic content that they provide can be taken as exactly what makes these two verb-types special. Antipassive verbs differ from simple transitives precisely in the addition of extra morphology—sometimes null—and that morphology’s accompanying lexical semantics.¹⁶ The antipassive morphology serves to mediate the composition of *V* with a derived property-type object. In other words, the antipassive morpheme is a function that takes a 2-place

¹⁶ This claim does not imply that antipassive morphology cannot bear other semantic information as well, and at the same time. Spreng (2012) argues that antipassive *si-* is a marker of imperfective viewpoint aspect. This may well be an accurate characterisation of a distinct feature of this morpheme; it does not contradict our hypothesis. In contrast, Bittner’s (1994b) treatment of antipassive quantificational semantics advances a specific type-shifting analysis of antipassive morphology, which is incompatible with the treatment offered here, and which is actually unnecessary under our account.

relation between individuals and events (which, following Kratzer (1996), we take to be the denotation of verb roots), giving a new function that takes a 1-place predicate, yielding a 1-place event predicate.¹⁷

If (12a) is taken as the semantic contribution of antipassive morphology, then (12b) should indicate the meaning of the antipassive verb in (2) when combined with the modalis-marked object. (How this result is ensured will be discussed below, in section 3.2.)¹⁸

- (12) a. $\llbracket \text{AntiP} \rrbracket = \lambda P_{\langle e, \langle st \rangle \rangle} . \lambda Q_{\langle et \rangle} . \lambda e_s . \exists x [P(x)(e) \wedge Q(x)]$
 b. $\llbracket \text{VP in (2)} \rrbracket = \lambda es . \exists x [\text{see}'(x)(e) \wedge \text{fish}'(x)]$

Less formally, what (12a) indicates is that the antipassive affix introduces an existentially bound variable which, when combined with a transitive verb, will serve as the object of the verb.

The semantic contribution of incorporating verb stems is comparable, although no extra morphology is found in this case, since incorporating verbs are only used when actual noun incorporation takes place. The (13a) formula sums up the overall semantic contribution of any regular incorporating verb stem; (13b) shows how this should work out for the verb phrase in (1).¹⁹

- (13) a. $\llbracket V_{\text{incorporating}} \rrbracket = \lambda Q_{\langle et \rangle} . \lambda e_s . \exists x [P(x)(e) \wedge Q(x)]$
 b. $\llbracket \text{pani-qaq} \rrbracket = \lambda e_s . \exists x [\text{have}'(x)(e) \wedge \text{daughter}'(x)]$

2.1 A note on definiteness

The free translation line in the presentation of Inuktitut data sometimes includes definite articles, because that corresponds to the most felicitous English equivalent. But in fact, the distinction between indefinites and definites is not a relevant one in Inuktitut, a language which lacks true definiteness. Wharram (2003) makes this point for Inuktitut, as does Matthewson (1999) and Gillon (2006) and Gillon (2011) for Salish (broadly), *Skwxwú7mesh* (Salish) and Innu-aimûn (Algonquian), respectively. In this respect, we follow Heim (2011: p. 1006) in supposing “that the ‘ambiguous’ DPs in such languages [lacking definiteness marking] are simply indefinites. They are semantically equivalent to English indefinites, but have a wider range of felicitous uses because they do not compete with definites and therefore do not induce the same implicatures.” One of the principal justifications for this position, briefly laid out here, is that it is best able to account for the observed ‘scope’ facts of specific indefinites in the language, specifically with respect to the apparent availability of so-called intermediate readings. Such readings become available in the presence of bound variable pronouns, and not otherwise. This is wholly

¹⁷ The same semantic content is not necessarily associated with antipassive morphology in other languages. Polinsky (2017) notes, for example, that antipassive objects in Adyghe may take scope below or above the subject, which would be impossible if the Adyghe verb must bind the object.

¹⁸ For expository purposes, we provide a purely extensional semantics here. Thus, t is the type of propositions and s is the type of events. The entry in (12a) is that given in Wharram (2003), a generalised version of the semantic incorporation process of Van Geenhoven (1998), which itself builds on observations in Bittner (1987; 1994a) and Bittner (1995). More recent work by Deal (2007; 2008) has demonstrated, correctly we believe, that a modalised revision of (12a) is required, in order to account for the observed facts of intensional verbs Deal (2008: p. 97):

(i) $\lambda P_{\langle e, \langle s, wt \rangle \rangle} . \lambda Q_{\langle e, wt \rangle} . \lambda e . \lambda w . \forall w' \in \text{intent}(e) : \exists x [Q(x)(w') \wedge P(x)(e)(w')]$

where, for (i), t is the type of truth values and w is the type of worlds. Again, solely for ease of exposition, we will hold to the entry in (12a).

¹⁹ As just above, the lexical entry in (13a) is an extensional translation of Van Geenhoven’s (1998) proposal for Kalaallisut incorporating verbs, adapted to the properties of verbs posited in Kratzer (1996).

unexpected under a view of the specific indefinite as being in fact definite, but it is exactly as predicted under Kratzer’s (1998) approach to (Skolemised) choice functions. Compare the availability of a so-called intermediate scope reading for the relevant nominal, *nutaraq* ‘child’, in (14) to the unavailability of such a reading for the nominal *ilinniaqti* ‘student’ in (5), above.

(14) *South Baffin Inuktitut*

Anaana-limaa-t numaasuk-kajaq-t-u-t nutara-ni
 mother-all-ABS.PL be.sad-would-PART-[-TR]-3PL.ABS child-4SG.PR.SG.PM
 tuquk-pat
 die-COND.3PL.ABS

‘every mother₁ will be sad if her_{1/*2} child dies’

- i. There is one child of one of the mothers, and every mother will be sad if that child dies.
- ii. For each mother, there is a child of hers who she doesn’t want to see die (bound variable reading of *hers*)
- iii. #Every mother will be sad if any child dies.

In (14), under the bound variable interpretation of *her*—reading (ii)—, the choice function which selects one child from a set of a mother’s children will have a different restrictor set for each mother, and therefore, a different individual child for each mother can be selected by the choice function.²⁰

Indeed, even proper names, often taken to be definite descriptions *par excellence*, can be shown to be non-referential in Inuktitut, as discussed in section 3.2.

3 Phase head deletion and DP in Inuktitut

The idea that the head of a phase may delete originates with Chomsky (2015), who employs this concept to derive the *that*-trace effect. A quick sketch of Chomsky’s model will help in identifying the comparable patterns in Inuktitut DPs.

Building on the *labelling theory* of Chomsky (2013), Chomsky supposes that a phase which provides one half of the label for a dominating node cannot be displaced during the phase in which the label is constructed. Since the subject DP combines with TP in English to form the $\langle \phi, \phi \rangle$ label for the sentence, it follows that subjects are frozen in place until the CP phase is complete. When C persists as the head of the phase, it follows that subjects cannot be extracted at a later phase level, because the subject remains as a part of the domain of C, so it undergoes Transfer to the interfaces when C is complete, and is lost to the derivation thereafter. But Chomsky observes that C must transfer some of its features, including ϕ and Tense features, to T. (C first agrees with the subject and Case-marks it.) The Feature Inheritance operation (henceforth, FI) which accomplishes this transfer is a copying operation, so the immediate effect is that ϕ and Tense features are present on both C and T. If C transfers *all* of its formal features, then C can play no further role in the syntactic derivation, and under those conditions, C may then delete.²¹ Deletion is recoverable under these circumstances because the features of C are also present on T. When C deletes, however, the head to which it has transferred everything also acquires the status of serving as the head of the clausal phase. And then when the complement of the phase head (= T) undergoes Transfer, the subject is not affected, because it remains a sister of TP. Operations in a later phase then have access to the subject, which may

²⁰ See Wharram (2003) for further discussion.

²¹ For those dialects and idiolects in which *that*-trace “violations” are accepted, Chomsky supposes that syntactic C-deletion need not eliminate phonetic features of C.

therefore undergo \bar{A} -movement. The relevant portion of the derivation for (15a) can be seen in (15b–d).

- (15) a. Who did they claim will win the race?
 b. ... [C* [_{<ϕ,ϕ>} who will win the race]]
 c. ... [∅ [_{<ϕ,ϕ>} who will* win the race]]
 d. who did they claim [∅ [_{<ϕ,ϕ>} t will* win the race]]

C-deletion need not coincide with movement of the subject to a higher clause. In embedded questions with subject wh-phrases, C-deletion must also take place, since subjects cannot be displaced from their “critical” position before the CP phase is complete. Thus C must transfer all of its features to T to enable generation of (16a). In this case, the features transferred to T include the [wh] feature, which is interpretable and will not be deleted. If the [wh] feature remains on C, then some other wh-phrase must still raise up, to join with C in providing a label to a full interrogative CP, as in (17).

- (16) They wondered [∅ [_{<ϕ,ϕ>, <wh,wh>} who will* compete in the next race]]

- (17) They wondered [_{<wh,wh>} who (C)* [_{<ϕ,ϕ>} they will run against t]]

While Inuktitut DP offers no direct parallels to the *that*-trace effect, it still must operate along the same lines as English CP in specific respects. First, D must serve as the source of genitive (= possessive) Case-marking for possessors in constructions like (18).

- (18) *Labrador Inuttut*
 a. Jaani-up nasa-nga
 John-GEN.SG hat-3SG.PR/SG.PM
 ‘John’s hat’
 b. [D* [Jaani n [$\sqrt{\text{nasa...}}$]]]
 c. [D* [_{<ϕ,ϕ>} Jaani-up $\sqrt{\text{nasa-n-[3SG]}}$ [$t_{\sqrt{\text{...}}}$...]]]

The agreement features which accompany genitive Case assignment are realised on the possessed noun, which follows only if the D probe assigns Case and then Feature Inheritance displaces the resulting valued ϕ features to the nominal complement. We assume the possessor in (18b, c) is a “specifier” for n, either as its base position, or because it raises to that position, driven by the imperatives of the labelling algorithm. Just as in the clausal case, the effect of FI is that uninterpretable features are realised phonetically within the active phase, and they can therefore be deleted immediately with the Transfer operation.

It is not only uninterpretable ϕ features which are realised on the noun; interpretable Number features within the DP are expressed with the nominal inflection, too. For example, in (19), the nominal suffix *-ngit* is a portmanteau expression of both the ϕ features of the possessor and the (interpreted) plural Number for the DP as a whole. The implication seems to be that D—which must provide the interpretable Number feature—transfers both uninterpretable ϕ and interpretable Number to its nominal complement, at least in nominal structures where a nominal complement exists. (Bare possessive pronouns are always null in the dialects of Inuktitut for which we have current access to speakers, so only full nominal structures provide any evidence at all about where features are realised.) Thus, in (19a), the possessed noun is inflected simultaneously with an interpretable plural feature and with uninterpretable 3rd person singular agreement features, both of

which are realised *portmanteau* in the *-ngit* suffix. The structure in (19b) then highlights the effect of these features on the labelling structure of the full DP, where possessor and possessed both contribute to the $\langle \phi, \phi \rangle$ label. (Again, the possessor is a sister to nP in the labelled structure.)

- (19) a. inu-up illu-**ngit**
 person-GEN.SG/REL house-**3SG.PR/PL.PM**
 ‘the person’s houses’
- b. [D* [_{$\langle \phi, \phi \rangle$} inuup- \emptyset illu-[SG/3PL] [t ...]]]

There is one important difference to keep in mind between how FI affects the uninterpretable ϕ features and the interpretable Number feature. While all of these are realised morphologically on the (possessed) noun, the Number feature must still remain visible on D for later in the derivation. Otherwise, DP cannot enter into agreement relations with other elements of the sentence in which it will appear, since D is a phase head, and features contained in its complement will not be accessible once DP is complete. Uninterpretable features, in contrast, lack any interpretation in their original position, and will only be interpreted at the S-M interface in the lower position to which they are transferred (Richards 2007).

The uninterpretable Person features seen on the possessed noun in (18) are necessarily transferred downwards from D. It is an important question whether *interpretable* Person features are also subject to FI in this context, since the transfer of formal features is a critical step in the derivation leading to deletion of a phase head. But answering this question first requires some clarification of what the relevant (interpretable) Person features are. For 1st and 2nd persons, the question is moot, since indexical pronouns are rare, except as focussed topics. But in a regular full nominal, the status of the Person feature is open to debate. In the recent literature, some analyses follow Benveniste (1960) in treating 3rd person forms as the absence of a Person feature (Kayne 2000); others insist that 3rd persons are fully specified for Person feature values (Nevins 2007). We find persuasive the arguments of Oxford & Welch (2015), who argue that *both* camps are correct, but only for specific cases. It is even possible within a single language for some 3rd person nominals to bear a Person feature and others to lack it; this feature contrast then gives rise to a distinction between animate (Person-bearing) and inanimate (Person-less) nouns, a distinction which has a range of consequences in the agreement systems of Algonquian and Athaphaskan languages, as they show. For our purposes, it is sufficient, however, that D in 3rd person nominals in Inuktitut does provide an unmarked [PERSON] feature which is therefore available to the agreement system.²²

But now consider how the presence of a Person feature affects the derivation of vP generally. Since Case and agreement operate together, the Person feature will be intimately involved in Case assignment, and in movement operations which are driven by Case and agreement. This web of connections is tightly integrated in the labelling theory. Under Chomsky’s (2015) account, the “raising-to-object” patterns in English ECM are found because transitive verbs in English have objects which merge with the node immediately above the verb root, to provide a $\langle \phi, \phi \rangle$ label for the complement of v.²³ A typical derivation is seen in (20).

²² See also Mauro (2018) for further consideration within the framework of Harley & Ritter (2002).

²³ This node would correspond to a RootP or VP, in prior theories which do not incorporate a late labelling algorithm.

- (20) a. They declared Marie to have won the race.
 b. ... [(they) v* [$\sqrt{\text{declare}}$ [to have Marie won the race]]]
 c. ... [(they) v* [$\langle \phi, \phi \rangle$ Marie $\sqrt{\text{declare}}$ [to have *t* won the race]]]
 d. ... [(they) $\sqrt{\text{declare-v}}$ [$\langle \phi, \phi \rangle$ Marie *t** [to have *t* won the race]]]

As Chomsky notes, the displaced object in such cases is not subject to “criterial freezing” effects, because head-movement of the verb root to *v* has the consequence that *v* loses its status as the phase head. The verb root automatically inherits that status, leaving the object at the periphery of the new phase, and accessible for later \bar{A} -movement operations.²⁴

What is true of the more complex ECM structures must be true as well of simple transitive clauses. Thus, in (21), the object *the victory* will still shift within the verb phrase.

- (21) a. They celebrated the victory.
 b. ... [(they) v* [$\sqrt{\text{celebrate}}$ the victory]]
 c. ... [(they) v* [$\langle \phi, \phi \rangle$ the victory $\sqrt{\text{celebrate}}$ *t*]]
 d. ... [(they) $\sqrt{\text{celebrate-v}}$ [$\langle \phi, \phi \rangle$ the victory *t** *t*]]

In order for this account of English object height to work, it is necessary that the agreement operation which drives it be complete. *v* Agrees with the object and transfers the resulting ϕ features to the verb root. But if the full set of ϕ features is not valued, then Case assignment cannot take place, and the label provided to the complement of *v* will remain defective. It follows that both Person and Number features must be present in the D phase head, and FI must not have displaced them entirely downwards.

3.1 The derivation of absolutive objects

Chomsky’s account of English object height has immediate consequences for the analysis of ergative subjects in Inuktitut. Ergative subjects appear only together with absolutive objects; under virtually any theory of ergative case assignment, this means that they must belong to the same phase (Woolford 2015; Bobaljik & Branigan 2006; Coon & Preminger 2011). (The same would presumably be true of other theories of ergativity which predate phase theory, such as Bittner & Hale (1996), among many others.) If objects remain in their base position, then they will never belong to the same phase as the clausal subject. But if objects raise past the verb root, and if the verb root becomes the derived phase head, then the object and subject do belong to the same phase. Under those conditions, ergative case assignment is possible.

- (22) [ERG T [*t* verb [$\langle \phi, \phi \rangle$ ABS *t** (...)]]]

In (23), for example, the analysis must be one in which *v* values ϕ features with *tuktu* ‘caribou’ and transfers them to the verb root. *tuktu* raises from its base position to merge above the verb root, providing a $\langle \phi, \phi \rangle$ label for the complement of *v*. Movement of the verb root to *v* deletes the phase head status of *v*, and makes the base position of the verb root the new phase head. As the object is now in the periphery of the verbal phase, it can bear absolutive Case and the co-phasal subjects, ergative Case.²⁵

²⁴ Of course, if there is no object, then the derivation of the verb phrase cannot require that the object provide a label. In that case, Chomsky supposes that the root must be allowed to serve as a functioning label once it is enriched by the head-movement to *v*.

²⁵ Word order is very free in Inuktitut, which we attribute to scrambling operations. As such, the linear order of subject, object, *etc.* does not provide immediate information about the syntactic positions where constituents originate, or to which they may raise for Case/agreement reasons.

- (23) *South Baffin Inuktitut*
 Taqqialu-up tuktu taku-lau-nngit-tanga.
 T.-ERG caribou(ABS) see-PST-NEG-PART.[+ TR].3SG.ERG.3SG.ABS
 ‘Taqqialuk didn’t see a caribou.’

In Inuktitut, ergative case is available only when there is also an absolutive “competitor”, regardless of how this is implemented. An anonymous reviewer notes one important corollary: while ergative case must necessarily be assigned in the C-T phase in order to “compete”, the same is not necessarily true of absolutive case, which is assigned in the absence of a competitor. Nevertheless, we assume that both ergative and absolutive cases are assigned at the C-T phase, either because direct Cases are associated with that point in the clausal derivation, or because the C-T head is implicated in the Case assignment process.

Given the workings of Chomsky’s labelling algorithm, in order to be the co-labelling “specifier”, the object *tuktu* needs a full set of agreement features, including [PERSON]. The data even suggests that a stronger position may be defensible: the presence of a [PERSON] feature in the domain of *v* ensures that *v* will bear ϕ -features to value and to transfer to the lexical root. This stronger claim is true already in English, where “inner object shift” is obligatory, when possible. And if we adopt this stronger position, then it follows that the presence of a [PERSON] feature on objects in Inuktitut will ensure the derivation adheres to the ergative/absolutive Case pattern, simply because the object is then always forced upwards into the next phase.

As DP is a phasal category, the ϕ features which will serve as co-labels ([PERSON] and [NUMBER]) must be present and accessible in the D position at the next phase, where agreement and labelling operations take place. For the [PERSON] feature, this is unremarkable; cross-linguistically, [PERSON] is normally realised morphologically only in the D position (as a pronoun). For [NUMBER], the same must be true, even though [NUMBER] is morphologically realised on the noun in Inuktitut. It must be concluded that the [NUMBER] feature on the noun is provided to it by FI from D, and that D continues to bear the [NUMBER] feature even after FI takes place.

As for the scopal properties of absolutive objects, nothing more need be said. D is interpreted as a choice function, without exception, and so absolutive objects will always necessarily bear widest scope, as seen in (24). The interpretation of (24a) has maximally wide scope for the object. The structure of *vP* in (24b) includes a full DP object, in order to ensure the absolutive Case assignment. And the compositional semantics associated with the DP structure of this object are sketched in (24c).

- (24) a. Taqqialu-up **tuktu** taku-lau-nngit-tanga.
 T.-ERG caribou(ABS) see-PST-NEG-PART.[+ TR].3SG.ERG.3SG.ABS
 i. #‘Taqqialuk didn’t see a (single) caribou.’
 ii. ‘There is a (particular) caribou that Taqqialuk didn’t see.’

b. [$\sqrt{\text{taku-v}}$ [$\langle_{\phi, \phi}$ [$_{\text{DP}}$ D $\sqrt{\text{tuktu-n}}$...] t^* ... $t...$]]

c. $\text{CH}(f_x)[\text{caribou}'(x)]_{\langle e \rangle}$
 $\swarrow \quad \searrow$
 $\text{CH}(f_x)_{\langle \langle e, t \rangle, e \rangle} \quad \text{caribou}'(x)_{\langle e, t \rangle}$

3.2 The derivation of modalis objects of antipassives

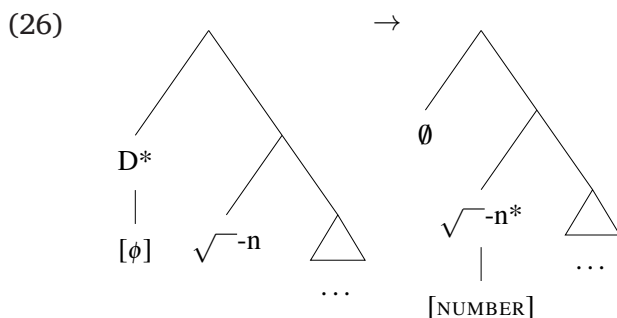
In antipassive clauses, the derivation is quite different, but adheres to the same general principles. The semantic properties of a nominal must reflect the interaction of inherent semantic properties, combinatorial semantics based on syntactic representation, and the

effects of the syntactic derivation. With an object of an antipassive verb, absolutive Case is not assigned to the object, and the object does not participate in the verbal agreement. Given what was said about normal absolutive objects, the implication is that the nominal must not constitute a fully specified DP, with accessible ϕ features. And yet modalis objects in antipassive clauses do show some of the hallmarks of a full DP. In particular, they must be phasal categories, because they may contain possessors, and the possessor then agrees with the possessed noun, as in (25).

- (25) Akittiq pani-nga-nik taku-juq
 A.(ABS) daughter-3SG.PR/SG.PM-MOD see-PART.[-TR].3SG.ABS
 ‘Akittiq₁ sees his_{2/*1}/her daughter.’

Just as with absolutive objects, modalis objects must *originate* as full DPs, with D supplying [NUMBER] features to the noun, and in possessed DPs, Case/agreement features, as well. But modalis objects cannot agree with the verb, so something must happen within the derivation of the full object to block later operations at next phase level. Since D transfers features to the noun, the simplest account is that D is deleted afterwards, just as C is deleted in English full clauses.²⁶

How does this ensure that the modalis object will not agree? FI provides [NUMBER] features to the noun, and then D-deletion will remove the phase head. The noun itself must then become the new head of the nominal phase, just as T does in the parallel English structure. If the noun were to obtain a full set of ϕ features by this means, then it could serve as the goal for agreement processes at the next phase level. But features which appear only on the noun must be interpretable in that position. [NUMBER] features are interpretable; [PERSON] features, which are referential and not predicative, are not. It seems that FI must apply only in part in this case, transferring [NUMBER], which then becomes recoverable, but not [PERSON]. But this does not mean that 3rd person features on D are non-recoverable in this context. Modalis objects of antipassive verbs are always 3rd person forms, because 1st and 2nd persons are semantically unsuited to this context (as we show immediately below). As such, the context itself ensures that the person feature on D will be recoverable. D can therefore be deleted even though only the [NUMBER] feature is transferred, because all of the pertinent formal features are recoverable. The effect of FI and D-deletion on the structure of a nominal is then as in (26), where the asterisk indicates the current phase head.



²⁶ An anonymous reviewer questions whether the same results could not be obtained if nominals were simply allowed to originate as bare NPs, with no D present. Besides the evidence from agreement discussed already, such an approach would require that one posit very specific selectional constraints to ensure the right distribution of NP and DP. In effect, one would have to mirror the scope facts with arbitrary selectional constraints, which seems like a circular exercise. What is more, the contexts discussed below, where both wide and narrow scope readings are found, would demand a free distribution of either DP or NP, again on entirely arbitrary grounds.

When derived nominals like this are introduced as objects in a vP phase, they cannot serve as full agreement targets, and they cannot provide one half of a $\langle \phi, \phi \rangle$ label for the sister of v. It follows that they cannot raise past the verb root, and they will be inaccessible for absolutive Case assignment when the C-T phase is constructed. The final position of a D-less full nominal must be its base position, within the Transfer domain of the verb phrase phase.²⁷

Lacking access to absolutive Case, the only way for a full nominal to satisfy the Case filter is if the grammar provides a fall-back Case assignment mechanism. This is what modalis Case is. When ergative and absolutive Case are unavailable, an Inuktitut (overt) nominal may freely be assigned modalis Case, as in antipassives. The simplest hypothesis for how this Case is assigned is that the antipassive morphology itself freely assigns modalis Case, and we assume this is so.²⁸

Recall now that wide scope interpretations are unavailable for the object of an antipassive verb, as in (27).

- (27) *South Baffin Inuktitut*
 Taqqialuk **tuktung-mik** taku- \emptyset -lau-nngit-tuq.
 T.(ABS) caribou-MOD see-AP-PST-NEG-PART.[-TR].3SG.ABS
 i. ‘Taqqialuk didn’t see a (single) caribou.’
 ii. #‘There is a (particular) caribou that Taqqialuk didn’t see.’

This follows, as well, from the deletion of D, which leads to the structure (28).

- (28) [$\sqrt{\text{taku-v}}$ [_{VP} t^* [\emptyset $\sqrt{\text{tuktung-n}}$...] ...]]

D-deletion eliminates the choice-functional variable which makes apparent wide scope interpretations available. With the choice function gone, wide scope for the object becomes impossible, but at the same time the structure must include some alternative means by which to introduce (and existentially bind) the variable of which the nominal predicate holds, in order to allow the phrase to be interpretable within the structure at all:

- (29) caribou'(x)_{<e,t>}
 \swarrow \searrow
 \emptyset caribou'(x)_{<e,t>}

The obvious conclusion is that the “antipassive” morphology itself must mediate the composition of the verb together with its object, as already described in (12a).

The effects of D-deletion on the scopal properties of antipassive objects extend even to the interpretations of proper nouns, which lose their “rigidity” in this context. Example (30) illustrates this point.

- (30) a. (*context:*)
 ‘Both you and your sister know me. Having just returned from Montreal, where you saw me, you’re now talking to your sister.’
 b. (*test sentence:*)
 Ippaksak Tuglasi-mik taku-lauq-tunga
 yesterday Douglas-MOD see-PST-PART.[-TR].1SG.ABS
 (#)‘Yesterday, I saw (someone named) Douglas’

²⁷ An anonymous reviewer asks if antipassive objects must be adjacent to the verb, which might be expected. Again, however, the optional application of scrambling operations seems to subvert any expectations in this area.

²⁸ Again, other languages may differ in how antipassive objects are Case-marked. Polinsky (2017) surveys a variety of proposals on this topic for distinct ergative languages.

Given the mechanisms sketched above, the name *Tuglasi* in (30) has lost its D, and the semantic interpretation must cope with this loss. In this case, it does so by taking the name as a property of people named *Douglas*, and not as a specific individual.²⁹ Of course, this constitutes further evidence in support of a syntactic operation that removes D from the structure, since proper nouns are generally assumed to appear only in full DP structures, as argued initially by Longobardi (1994).

3.2.1 Non-antipassive modalis objects

Going back to an observation made in Bittner (1987), for Kalaallisut, that the correlation between Case and ‘specificity’ is only apparent, it is important to recognise that it cannot be the modalis Case in the antipassive construction which ensures narrow scope for the object, because modalis arguments in other contexts do bear wide scope. In double object verb phrases, for example, a modalis-marked direct (Theme) object must show a wide scope interpretation, as in (31a), a possibility not allowed for a modalis-marked object which co-occurs with antipassive morphology, as in (31b), from South Baffin Inuktitut.

- (31) a. Kingmaalisaa-p iqalung-mik Miali
 K.-ERG fish-MOD M.(ABS)
 tuni-lau-nngit-tanga.
 give-PST-NEG-PART.[+TR].3SG.ERG.3SG.ABS
 ‘There is fish that Kingmaalisaaq didn’t give to Mary. (with strong implication that he did give Mary some other fish)’
- b. Kingmaalisaaq iqalung-mik Miali-mut tuni-si-lau-nngit-tuq.
 K.(ABS) fish-MOD M.-DAT give-AP-PST-NEG-PART.[-TR].3SG.ABS
 i. ‘Kingmaalisaaq didn’t give any fish to Mary’
 ii. #‘There is some fish that Kingmaalisaaq didn’t give to Mary.’

Similarly, consider the following two Labrador Inuttut sentences:

- (32) a. Nina-up atuagam-mik Hulda aittu-qau-nngi-tanga
 N.-ERG book-MOD H.(ABS) give-PST-NEG-PART.[+TR].3SG.ERG.3SG.ABS
 ‘There is a (particular) book that Nina did not give to Hulda’
- b. Nina atuagam-mik Holda-mut aittu-i-qau-nngi-tuk
 N.(ABS) book-MOD H.-DAT give-AP-PAST-NEG-PART.[-TR].3SG.ABS
 i. ‘Nina gave no book(s) to Hulda’
 ii. ‘There is a (particular) book that Nina did not give to Hulda’

Speakers judge the sentence in (32b) to be felicitous with either a situation in which Nina gave Holda no books or in which Nina may have given Holda some books, but not given her a particular one.³⁰ On the other hand, the utterance in (32a) is judged to be felicitous with the latter scenario, but wholly infelicitous with the former.

Data like (31)–(32) show clearly that nominals bearing modalis Case need not be interpreted as narrow scope indefinites. And actually, the fact that the modalis object in both (31a) and (32a) is interpreted with wide scope is expected in our model. Since the result of D-deletion is a predicate nominal, D-deletion must not occur in a context where there is no variable present of which the nominal may hold. Since the verbs in (31a) and (32a) are not antipassive forms, they cannot provide the requisite variable, so D-deletion would

²⁹ One consultant’s response to this sentence establishes the meaning which is forced upon the proper noun quite clearly: “Um, weird, unless I was telling her about seeing someone named Douglas yesterday. I guess that’d be OK, but when would I say that? I’d just say *Tuglasi takulauqtara* [‘I saw Douglas.’]”

³⁰ The latter scenario is not one that would be compatible with a similar sentence in other Inuktitut dialects (see Johns (1999) for discussion). The critical fact here is the unavailability of the narrow-scope reading for the indefinite *atuagammik* in (32a).

ensure an anomalous interpretation. D must remain intact in these examples, and the wide scope indefinite interpretation is then automatic.

3.2.2 Implicit objects of antipassives

While we acknowledge that cross-linguistic variability exists in the semantic characteristics associated with noun incorporation – indeed, one of our goals here is to demonstrate such variation within single language varieties –, we equally acknowledge that there *do exist* some stable cross-linguistic properties of incorporated nominals, interpretation as weak indefinites and taking obligatory narrow scope among them. Martí (2015) provides a survey of some of those stable attributes, and shows that implicit indefinite objects in English share those same semantic properties. The same observation can be shown to be true of Inuktitut, where implicit objects of antipassivised verbs cannot be interpreted as ‘specific’, or referentially – they are restricted to a property-type interpretation. The sentence in (33) illustrates.

- (33) Darryli-up itluujak iga-ppauk, Alice
 D.-ERG seaweed(ABS) cook-COND.[+ TR].3SG.ERG.3SG.ABS A.(ABS)
 nigiqatta-ngit-tuk.
 eat-AP-HAB-NEG-PART.[–TR].3SG.ABS
 i. ‘When Darryl cooks seaweed, Alice doesn’t eat (anything).’
 ii. #‘When Darryl cooks seaweed, Alice doesn’t eat it.’

The unavailability of a ‘specific’ reading for the implicit object of the antipassivised verb in (33) can be determined by the subsequent non-felicity of the sentence in (34), judged by speakers to be an unacceptable follow-up to (33).

- (34) Alice nigiqattajuk puijivinningaak.
 ‘Alice eats seal-meat instead.’

On the other hand, the same speakers judge (34) to be a perfectly acceptable follow-up to (35), containing a fully transitive (i.e., non-antipassivised) verb in the relevant clause.

- (35) Darryli-up itluujak iga-ppauk, Alice
 D.-ERG seaweed(ABS) cook-COND.[+ TR].3SG.ERG.3SG.ABS A.(ABS)
 nigiqatta-ngit-tanga.
 eat-HAB-NEG-PART.[+ TR].3SG.ERG.3SG.ABS
 i. #‘When Darryl cooks seaweed, Alice doesn’t eat (anything).’
 ii. ‘When Darryl cooks seaweed, Alice doesn’t eat it.’

The particulars discussed in section 3.2.1 and in this section represent two distinct facts about the modalis that, to our knowledge, have not been previously discussed in the literature. In the former, it is seen that the modalis morphology is, in the proper structure, consistent with the availability of a wider-than-narrowest-scope reading for its associated indefinite. In the latter, it is seen that (implicit) objects of antipassivised verbs demonstrate uniform semantic characteristics in the presence or in the absence of modalis morphology. The facts discussed in both sections, however, coalesce on the same conclusion: The modalis (*-mik*) marker plays no role in dictating the observed semantic force of the objects of antipassivised verbs.

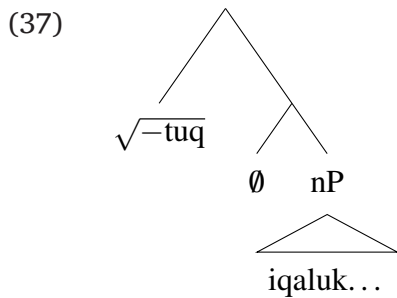
3.3 The derivation of incorporated objects of incorporating verbs

We turn now to the examination of scope in noun-incorporation contexts, restricting our attention initially to the simplest case, where nominal objects are obligatorily incorporated by verbs of the class that incorporate obligatorily. It turns out that such structures

express many of the same principles as antipassives do. Consider (36). The root *-tuq* must incorporate its object, and the incorporated object must be interpreted as a narrow scope indefinite.

- (36) a. Ulluriaq iqaluk-tu-nngit-tuq.
 U.(ABS) fish-eat-NEG-PART.3SG.ABS
 i. ‘Ulluriaq didn’t eat a (single) fish.’
 ii. #‘There is a fish/are fish that Ulluriaq didn’t eat.’
 b. [iqaluk- $\sqrt{\text{tuq}}$ -v [_{VP} t* [\emptyset t ...]...]]

The narrow scope of the object is an indication that D-deletion has taken place, removing the choice function from within the object. The effect of D-deletion is the generation of structure (37), at the point where incorporation will take place.



One consequence of D-deletion in (36) is that the noun *iqaluk* becomes the derived head of the nominal phase. This makes it accessible for operations at the next phase level. At the same time, deletion of D makes it impossible for the object to raise to a position where it might obtain absolutive Case. As the verb is not antipassive in (37), no modalis Case-marking will be possible either. The only solution which will satisfy the Case (filter) requirements of the object in this case is incorporation, which obviates the need for the object to bear Case (Baker 1988).

As with the antipassive construction, the representation must include the semantic content which introduces the variable of which the predicate nominal holds that serves to close off that variable. In this case, it must be the verb root itself which carries this semantic information. The lexical entry of a canonical Inuktitut incorporating verb is therefore what we proposed above, in (13a), which, again, is a purely extensional translation of Van Geenhoven’s (1998) proposal for Kalaallisut incorporating verbs, adapted to the properties of verbs advanced in Kratzer (1996).³¹

The lexical entry of a canonical incorporating verb in the language has further consequences, since it actually ensures that these verbs incorporate their objects. Consider the possibilities for *tuq*- ‘eat, consume’, for example. If D does not delete in the object nominal, then it will not be compositionally compatible with the verb (which is looking for a property-type argument). So D-deletion must take place. And if D is lacking, then the object cannot participate in absolutive Case-marking, as discussed above. Modalis Case, as discussed in section 3.2 above, is a ‘last resort’ Case, assignable by the antipassive morphology. But the antipassive is clearly semantically incompatible with the type of an incorporating verb, so modalis Case is therefore not an option for the object of *-tuq* either. The only remaining possibility for the object to satisfy its Case requirements

³¹ As usual, head-movement appears not to alter what enters into interpretation at the semantic interface (Chomsky 2000). Since the variable of which the predicate nominal holds is both introduced and existentially bound within the incorporating verb itself, the scopal interpretation of the incorporated nominal is frozen in the verb’s merged position.

is through incorporation. The semantic properties of any verb like this therefore leads indirectly, but inexorably, towards object incorporation. The morphology of such verbs must therefore be compatible with noun incorporation, as a forced consequence.

Regular noun incorporation in Inuktitut does not permit stranding of possessors for the incorporated noun, unlike what occurs in a number of other languages (Allen, Gardiner & Frantz 1984; Baker 1988; Van Geenhoven 2002; Baker, Aranovich & Gollusco 2004; Deal 2013; and many others). This feature of the language reflects an indirect consequence of an independent constraint on the use of number features in Inuktitut, rather than a limitation on what kinds of nouns may be incorporated. The constraint is given in (38).

- (38) *Inuktitut Number Licensing Constraint (INLC)*
Only nouns with Case may bear number features.

The INLC ensures that plural and dual nouns will not be incorporated.

- (39) *South Baffin Inuktitut*
*Ulluriaq iqalu-i(t)-tu-nngit-tuq.
U.(ABS) fish-PL-eat-NEG-PART.[-TR].3SG.ABS
'Ulluriaq didn't eat fishes.'

As shown below (section 4.2), there is no morphological constraint which blocks incorporation of plural nouns, which are permitted in locative incorporation contexts. It is only nouns for which incorporation resolves the Case problem which cannot bear number inflections, which is what the INLC ensures.

Possessive constructions in full DPs also require number marking, as part of the ϕ feature agreement complex which provides a label for the possessive structure. And the number features coming from agreement actually engage with *interpretable* number features in rich portmanteau morphology. And the INLC applies to both types of number feature equally. This accounts for the unacceptability of data like (40), where the possessed noun agrees with its possessor.³²

- (40) *Illu-ngi-liu-vugut.
house-3PL.PR/PL.PM-make-IND.[-TR].1PL.ABS
'We are building their houses.'

Of course, without such agreement on the possessed noun, there would be no label available for the possessive structure within DP, so that possibility is excluded, too.

4 Deriving exceptions

It is the exceptions which will prove the analysis. Under the approach taken here, narrow scope is possible only when D-deletion occurs, and D-deletion takes place freely, but other factors conspire to limit this freedom. The use of [PERSON] features in labelling blocks D-deletion in absolutive objects. And semantic demands of antipassive and incorporating verb roots require that D-deletion occur in order to output a fully interpretable LF. When these factors are obviated, though, D-deletion can be seen to occur freely.

³² The same explanation holds for singular possessed nouns, which also fail to incorporate: (i).

- (i) *Illu-nga-liu-vugut.
house-3SG.PR/SG.PM-make-IND.[-TR].1SG.ABS
'We are building her/his house.'

4.1 Incorporations with copular verbs

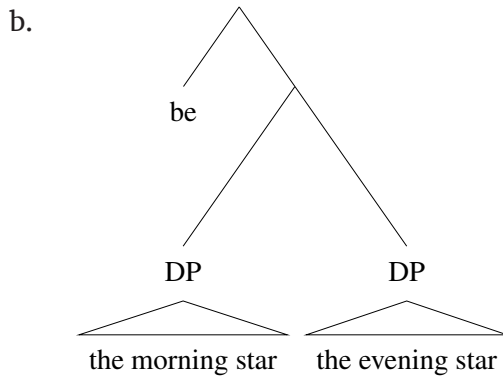
One context where D-deletion applies more freely is with copular verbs. The copula is an affixal verb, which must find a nominal root, i.e., it must incorporate. But incorporation in this case need not produce a narrow scope reading, as seen in (41).

- (41) *Labrador Inuttut*
 - a. Rita ilinniatitsiji-u-nngi-tuk
R. teacher-be-NEG-PART.[-TR].3SG.ABS
‘Rita isn’t a/the teacher’
 - b. Louisa-u-vunga
L.-be-IND.[-TR].1SG.ABS
‘I’m Louisa’

Thus, the utterance in (41a) is compatible with both a state of affairs where Rita does not have the property of being a teacher and one where Rita is a teacher whose value is picked out by the choice function.³³ (In other words, in addition to a property-type reading for ‘teacher’, (41a) is fully compatible with a “Rita is not our teacher” reading, even though Rita may, in fact, be a teacher, given the appropriate context.) Using the terminology of Higgins (1979), the sentence in (41a) allows for both *predicational* and *equative* readings.³⁴

The explanation for the freedom of interpretation in this case starts with the base structure. Following Moro (1997; 2000) and Chomsky (2013), we assume that copula structures include exocentric base positions for the two arguments. For an English example like (42a), the base arrangement of the copula and the two arguments is as in (42b).

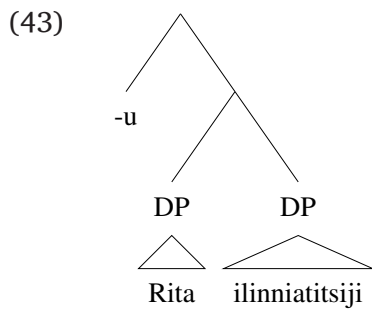
- (42) a. The morning star is the evening star.



Such structures pose an immediate challenge for the labelling algorithm, since minimal search cannot identify which of the two arguments in the complement of the copula should serve as a label. Labelling cannot take place unless one of the two sisters raises to a higher position, and ultimately becomes the subject of the sentence. The same will be true for the Inuktitut examples (41). Example (41a) will have the base arrangement in (43), for example.

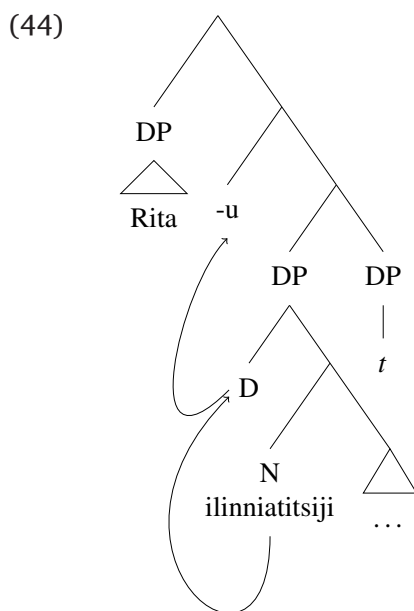
³³ For readability, we have translated a possible meaning of the incorporated noun here as ‘the teacher’, although it should more accurately be understood as ‘a specific teacher whose value is supplied from the utterance context’.

³⁴ We set aside *specificational* and *identificational* copular clauses here, though, in the relevant respects, they largely behave like the equative copular clauses in Inuktitut.



Other grammatical requirements must also find a solution, given the (43) structure. Both nominals must satisfy the Case filter, either through incorporation or Case assignment. And the morphological requirements of *-u* must be satisfied by finding a nominal stem to adjoin to it.

Happily, all these demands can be met. Absolutive Case is assigned to the nominal which raises. The non-raising nominal, *ilinniatitsiji*, will then be identified as the label for the complement of the copula, as in (44).



The lower noun will now solve its Case requirements only through incorporation into *-u*.³⁵ Since D is not deleted, however, incorporation must take place in two steps: N into D, and D into the copula. Simultaneously, this solves the morphological problem for the copula, as well.

Incorporation by the copula is subject to the INLC, because no Case is assigned to the incorporated nominal predicate. As such, once again, possessed nouns cannot serve as incorporees: (45).

- (45) **ilinniatitsiji-vu-u-jut*.
 teacher-1PL.PR/PL.PM-be-PART.[-TR].3PL.ABS
 ‘They are our teachers.’

Up to this point in the analysis of Inuktitut copular structures, D-deletion plays no role. Copular structures differ from regular transitive verb phrases because the verb phrase pro-

³⁵ We see no need here to consider the possibility that a nominal predicate need not bear Case in Inuktitut, as the analysis works out either way.

vides two equivalently prominent nominal arguments (and no external argument). Both arguments may be full DPs, each with its own [PERSON] feature. It follows that when one of the arguments is used to provide a label for the complement of the *v* phase head, the presence or absence of a [PERSON] feature on the other argument will not affect the success of that operation. In this construction, then, D-deletion may take place freely within the nominal which does not raise—at least as far as the labelling procedure is concerned.

D-deletion does affect the phase structure of a nominal, though, and that must be factored into the description of how incorporation takes place. Suppose that D does delete in the low nominal. Then incorporation will follow the same derivational steps as we see with other incorporating verbs. In other words, deletion of D ensures that the noun becomes the new phase head. As such, the noun can raise directly to *-u*, since it is no longer contained within the inaccessible portion of the nominal phase. And the semantic implications of D-deletion for a nominal predicate are fully benign. D-deletion will remove the choice function in D, as usual, but the variable that holds of the indefinite can be existentially bound within the copula (an incorporating verb, recall) itself. The derivation succeeds simply, and the interpretation of the nominal will be simply that of a regular (weak indefinite) nominal predicate.

Now consider what the consequences are if D-deletion does not take place within the low nominal. The nominal phase structure remains that of a regular DP, and D remains as the phase head. Therefore, incorporation must follow a successive cyclic head-movement path, with the noun raising to D within the DP phase, and then with D—now including the noun—incorporating into *-u* in turn, during the next phase. No principles of the syntax are violated, but the resulting structure will not be semantically composable, with a type-mismatch between the incorporated noun and the copula. Evidently, then, a derivation of this manner cannot be the source of the specific reading generally available to copula-incorporated nouns. However, we follow much research on the crosslinguistic properties of copulae that argues (essentially following Russell (1919)) for the existence of at least two types of copulae: a copula of identity ($\lambda x.\lambda y[y=x]$) and a copula of predication (see, among many others, Schlenker (2003); Heller (2005); Mikkelsen (2005); Comorovski (2007)).³⁶ And there is overt evidence that the copula of predication and the copula of identity are distinct in Inuktitut, with the copula of identity having a zero variant while the copula of predication lacks one. Consider (46).

- (46) *Labrador Inuttut*
- a. Holda muutakaati-u-juk
H. driver-be-PART.[-TR].3SG.ABS
'Holda is a/the driver'
 - b. Holda muutakaatik
Holda driver
'Holda is the driver'

The lack of a predicational reading for either of the nouns in a construction like (46b) has been discussed in Compton (2004) (and see also Woodbury (1985); Johns (1987)).³⁷

³⁶ Alternatively, one could suppose an approach where type-shifting operations manipulate the post-copular NP (Partee 1987) or the copula itself (Geist 2008), though the model of semantic composition which we adopt here denies these possibilities.

³⁷ An anonymous reader points out that modification of a predicate makes a predicational reading possible for clauses with a silent copula, though we note that this only obviously occurs in what Higgins (1979) refers to as *identificational* copular clauses. Unfortunately, our analysis offers no particular insight into this departure from the expected role of the copula of identity. But since our major concern is rather how copular semantics are implicated in some incorporation structure, developing an account of this observation is something which we defer to future research.

It is thus only the presence of the copula of identity that could derive the specific reading of the incorporated noun in (41) and (46a). Both non-specific and specific (i.e., choice-functional) readings for nouns incorporated by the copula are correctly predicted to be available, though the INLC blocks copula-incorporated possessed nouns from occurring, as illustrated in (45).

Ultimately, what distinguishes the copula from other verbs with internal arguments is simply how many internal arguments it makes available to serve as potential bearers of absolutive case. The need to establish a $\langle\phi, \phi\rangle$ label at the C-T level makes it essential that there be an absolutive argument, which must be a DP, in order to provide a full set of ϕ features to the labelling algorithm. With normal transitive verbs, the object either be raised (as DP) to the C-T phase, in which case D must not delete, or it must remain low enough to be construed together with an antipassive verb or an incorporating verb stem. D plays two distinct roles—one syntactic and one semantic—which therefore line up in the association of structure with scopal semantics. With copulas, however, both may take place together, since one DP can raise and the other can be incorporated. Therefore, incorporation is dissociated from scopal semantics in this specific context.

4.2 Locative incorporation

Locational expressions can be incorporated in Inuktitut, as in (47), as has been documented in Johns (2009), and Sadock (1980) for Kalaallisut. Locational incorporation serves to specify either a locative state (47a) or the result of a motion event (47b, c), depending on the particular locational suffix employed. We assume the locational suffixes belong to the P category, given the range of meanings they express, and that they assign inherent case.

- (47) *Labrador Inuttut*
- a. Illu-mi-i-juk
house-LOC-be-PART.[-TR].3SG.ABS
'She's in a (specific or otherwise) house'
 - b. Makkuvvi-mu-u-juuk
Makkovik-DAT-be-PART.[-TR].3DU.ABS
'Those two are going to Makkovik'
 - c. Ottawa-kku-u-jung?
Ottawa-VIA-be-Q.[-TR].3SG.ABS
'Is (s)he going through Ottawa?'

When locational incorporation occurs, the resulting morphology is richer than in the strictly copular incorporation structures discussed above, although the copula still forms a part of the derived verb. Specifically, when a locational is incorporated, the verb stem includes a nominal root, followed by a locational suffix, which is followed in turn by the copula (and then by regular verbal inflections). Assuming the Mirror Principle (Baker 1985), such morphology indicates that the noun attaches to P before the N-P X^0 structure raise to the copula.

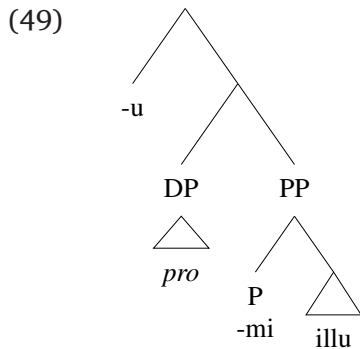
As (47) suggests, incorporated locationals are scopally ambiguous, allowing both wide and narrow scope interpretations, and this is confirmed by the judgements provided by speakers, given the following scenario:

- (48) Situation: You and I are standing outside a house where a party is occurring, and I ask you the following:
- a. Bertha illu-mi-i-jung?
B.(ABS) house-LOC-be-Q.[-TR].3SG.ABS
'Bertha in house?'

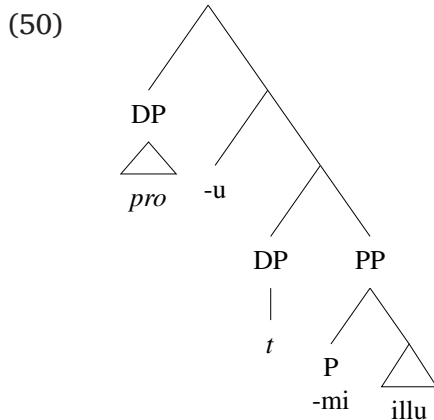
Could you answer in the positive – (b) – if (i) Bertha is inside the house we are standing outside of?; (ii) Bertha is still at home, at her own house?; (iii) Bertha is simply in some house, somewhere, possibly unknown to me?

- b. Aa, Bertha illu-mi-i-juk
 Yes B.(ABS) house-LOC-be-PART.[-TR].3SG.ABS
 ‘Yes, Bertha in house’

(47b) was judged by all speakers to be compatible with each of the possible contexts given, though answering (b) was universally regarded as a “less helpful” response to the (ii) and (iii) scenarios given in (48), with one speaker commenting that she could truthfully answer with either *Auka, angiqamiijuk* ‘No, she is at home’ or *Aa, angiqamiijuk* ‘Yes, she is at home’. Another speaker, commenting on her ability to answer (48b) under scenario (iii) in (48a), said “Well, I’m not lying, but... still!”.³⁸ And this result follows directly from the principles already established. The first thing to note is that given the presence of a copula in locational incorporation structures, the base structures used for locational incorporation must be parallel to those established for predicate incorporation. Then the base structure for (47a) should be (49).



As the sister to PP is a full nominal, containing a [PERSON] feature, it must Merge with the root to provide a $\langle \phi, \phi \rangle$ label for the complement of v, just like any other absolutive internal argument. This step produces (50), and solves the Case problem for the Theme argument in (49). The Case requirements of the complement of P can be satisfied with no phrasal movement, since P assigns Case directly to its complement. (For our purposes, it is immaterial whether Case assigned by P is structural or inherent.)

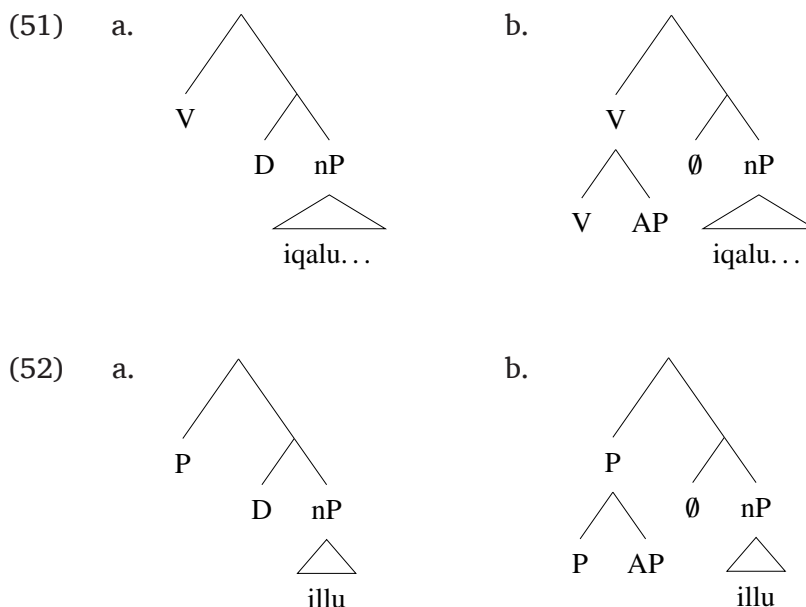


³⁸ This is predictably the case, as the context provided clearly favours a specific reading for the incorporated indefinite: there is a salient house right next to us. To our knowledge, non-specific readings for locational-incorporated nominals have not been discussed in the prior literature, so the point of this exercise was to investigate whether a non-specific interpretation is available even in a scenario where such a reading is highly disfavoured.

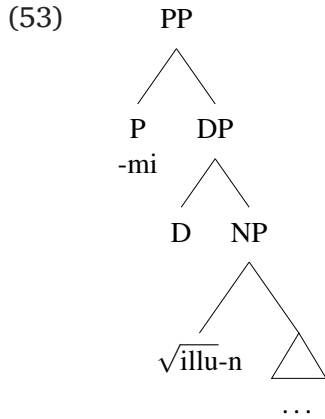
The morphological requirements of the copula remain the same; it is an affix, which must be supported by incorporating a root. But the same is evidently true of locational Ps in Inuktitut, which cannot stand alone. So in (50), *illu* must incorporate into *-mi*, and *illu-mi*, into *-u*, simply to ensure acceptable morphological structures.

The most straightforward account of the availability of specific indefinite readings for locational-incorporated nouns would seemingly rely on the presence of the copula of identity, as was demonstrated above for the strictly copula-incorporated nouns. But we note immediately that this cannot be the case: The presence of the copula of identity could not derive a semantically-interpretable structure in this construction, since there is no interpretive mechanism by which to combine its type with the type of the PP. The availability of the specific reading in the examples in (47) and (48), then, must be derived in a different manner.

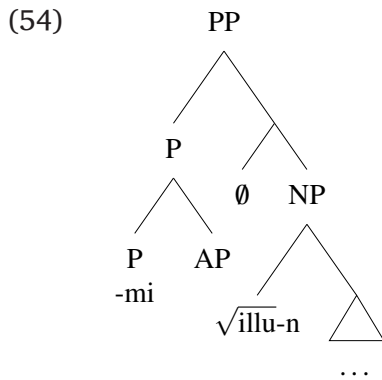
Consider, though, what we have posited as a fundamental characteristic of what we have been calling, following the general literature, the *antipassive*. It combines with an individual-selecting predicate to allow the resulting category to combine with something of type $\langle e,t \rangle$. That is, it is simply a syntactic mediator, in the sense that it allows the grammar to output structures to the semantics that can give rise to narrowest-scope readings for indefinites, under the now familiar, after Van Geenhoven (1998), designation of *semantic incorporation*. Syntactically transitive Vs, of course, can combine with the anti-passive, and we could stipulate that those are the only category capable of combining with the morpheme, despite the fact that other individual-selecting predicates exist in the language — the set of syntactically transitive Ps, for example. But we see no reason for such a stipulation. That is, analogous to (51)–(51a) for (3) and (51b) for (2), there can exist (52), for (47a) and (48).



The interpretational possibilities indicated for the sentences in (47) and (48) demonstrate that locational incorporation may take place whether D-deletion occurs or not, at least partially predicted here, since the Theme argument is always available to provide a $\langle \phi, \phi \rangle$ label as the absolutive argument. If D-deletion does not occur, then the choice function provided by D ensures a wide scope interpretation. In that case, of course, incorporation must include an initial step in which the noun raises to D, before N-D raises to P:



If D-deletion does take place, then the derivation will take a different path, but one which is familiar from both copula-incorporation and the canonical antipassive construction. Since the noun becomes the derived phase head in this case, it can raise directly to P, which later raises to the copula, as before. As with the canonical antipassive construction, it is the antipassive morpheme (12) that makes the indefinite here accessible to successful interpretation in the semantics, though in the case of locative incorporation structures, it is our *generalised antipassive*, attached to P, rather than V:



Unlike the other incorporation structures examined, locational-incorporated nouns do have Case assigned to them. Therefore, they are not subject to the INLC, and they may bear number inflection. They may therefore specify the quantity of the Goal argument, and the Goal may be a possessed noun, as in (55).

- (55) *Labrador Inuttut*
- a. Hulda illu-ti-ni-i-juk.
 H.(ABS) house-1PL.PR/SG.PM-LOC-be-PART.[-TR].3SG.ABS
 ‘Hulda is in our house.’
 - b. Illu-ngin-nu-u-jut.
 house-3PL.PR/PL.PM-DAT-be-PART.[-TR].3PL.ABS
 ‘They are going into their houses.’

4.3 Scope in full PPs

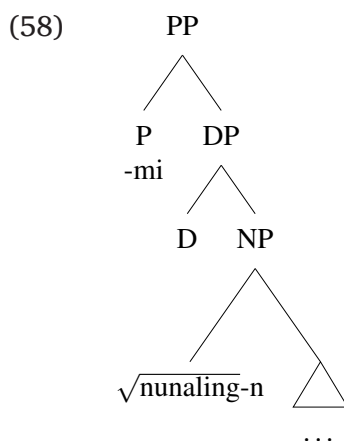
Incorporated locatives are not the only type of PP; independent PPs fill a familiar, wide range of functions in Inuktitut. The P itself is still affixal, however, and must therefore be attached to a nominal stem. And like incorporated locatives, independent P-bearing nouns (PPs) are scopally ambiguous, allowing either maximally wide scope or narrow scope (Wharram 2003). Thus, in (8), repeated as (56), *nunaling-mi* may be specific or non-specific.

- (56) *South Baffin Inuktitut*
 Nunaling-mi nuna-qa-lauq-sima-nngit-tuq
 settlement-LOC land-have-PAST-PERF-NEG-PART.[-TR].3SG.ABS
 i. ‘There is a (certain) town that (s)he hasn’t lived in’
 ii. ‘(S)he has never lived in any town’

The same properties hold of demoted *chomeur* Agents in passive clauses, which we treat as PPs, like English agentive *by-* phrases. The so-called “ablative” Case-marking in this case must actually be an incorporating P *-mit*. Unlike ergative Agents, ablative Agents can have either narrow or wide scope readings, freely.³⁹

- (57) Tuktu-it taku-jau-lau-nngit-tut angusukti-mit
 caribou-ABS.PL see-PASS-NEG-PART.[-TR].3PL.ABS hunter-ABL
 i. ‘There is a (certain) hunter, and certain caribou weren’t seen by him’
 ii. ‘Certain caribou weren’t seen by any hunter’

No new mechanisms are necessary to derive this very general result. Such PPs will be scopally ambiguous generally in our model because there are two ways in which the variable of which the nominal holds can be valued. Suppose the base structure for *nunaling-mi* in (56) to be (58).



Incorporation and Case assignment will take place within this structure in exactly the same way as it does in PP in a locative incorporation structure. If D-deletion does not occur, then the choice-functional variable introduced in D is left free, its interpretation being contextually determined (and giving rise to an apparent widest-scope reading). If D-deletion does occur, then it must be the “antipassive” which is freely contained within P that introduces and existentially binds the variable of which the nominal holds, ensuring a narrow scope interpretation.

5 Conclusions

The major claim we have attempted to defend here is that a combination of syntactic and semantic factors ensure the distribution of low scope indefinites, under the general hypothesis that all Inuktitut nouns are born as properties and all Inuktitut nominal arguments start off as DP phases. For reasons of space, we do not here confront the far more ambitious question of how well the ideas developed here can be employed to better understand comparable data in other languages treated in this literature.

³⁹ One consultant comments on this data as follows: “He’s a bad hunter... Maybe [a] qallunaq [a non-inuk]. Or maybe the caribou were very clever, [and] they were never seen by anyone.”

For the Inuktitut case, we end up with a fairly pure grammatical illustration of the maxim: “correlation does not imply causation.” Case properties of nouns do not directly influence their scopal character, and neither does incorporation; instead, the same general principles lead indirectly to a superficial correlation between Case and scopal interpretation. In this account, Case is assigned to satisfy purely syntactic requirements within a derivation, and scope readings simply reflect where and how the variable of which an indefinite holds is valued. They are simply independent parts of grammar.

Abbreviations

1 = first person, 3 = third person, 4 = fourth person, ABL = ablative, ABS = absolutive, AP = antipassive, COND = conditional, DAT = dative, DU = dual, ERG = ergative, GEN = genitive, HAB = habitual, IND = indicative, LOC = locative, MOD = modalis, NEG = negative, NPST = near past, PART = participial (mood), PASS = passive, PERF = perfective, PL = plural, PM = possessum, PR = possessor, PROG = progressive, PST = past, Q = interrogative, REL = relative, SG = singular, TR = transitive, VIA = vialis

Acknowledgements

We are indebted above all for their generous, patient and meticulous help to our language consultants, collaborators and teachers: Ellen Ford, Bertha Holeiter, Selma Jararuse, Alexina Kublu, Papatsi Kublu, Christine Nochasak, and Hulda Semigak.

A quite different version of this material first saw the light of day at the LAGB conference held at the University of Salford in September, 2012. We are grateful to the participants, including Michelle Sheehan and Mark Baker, for comments and questions, which led eventually to this take on the matter. The revised approach was presented at the APLA 39 conference in November 2015, where again the response from the participants was instrumental in helping us to refine this analysis. One-on-one discussions with our generous expert friends and colleagues, and especially with Alana Johns, Julien Carrier and Ilia Nicoll, took us the rest of the way. Sadly, all errors can still be laid at our door.

Funding Information

For parts of this research, we acknowledge financial support from the International Grenfell Association to the second author.

Competing Interests

The authors have no competing interests to declare.

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How to cite this article: Branigan, Phil and Douglas Wharram. 2019. A syntax for semantic incorporation: generating low-scope indefinite objects in Inuktitut. *Glossa: a journal of general linguistics* 4(1): 92.1–33. DOI: <https://doi.org/10.5334/gjgl.834>

Submitted: 03 October 2018 **Accepted:** 20 June 2019 **Published:** 06 August 2019

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