

RESTRICTING NOUN INCORPORATION: ROOT MOVEMENT

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ABSTRACT. This paper argues that the phenomenon of noun incorporation in Inuktitut derives from the fact that the set of verbs involved are all light verbs in the sense of verbal elements excluding the verbal or lexical ROOT (Pesetsky 1995; Marantz 1997; Harley to appear). Light verbs in Inuktitut are in little *v* and undergo the operation Merge with a nominal complement as ROOT. A parameter which requires that a ROOT appear in the leftmost position of the word accounts for the apparent incorporation of the nominal ROOT. Unlike Mohawk, where noun incorporation is a result of argument licensing (Baker 1996), Inuktitut noun incorporation is a subset of a general process which targets ROOTS. That only light verbs lack ROOT predicts that the set of verbs associated with noun incorporation are a finite class within the language, with a restricted and predictable semantic range. It is further proposed that universally all languages which have obligatory noun incorporation involve light verbs. Parallel data are found in Salish, Wakashan and Chukchi, which also have verbal suffixes obligatorily appearing with nominals (Sapir 1911; Gerds and Hukari 2002). Rather than adopting a grammaticalized account of the presence of these verbs (Mithun 1997, 1999), it is argued that light verbs are members of a universally available set. Thus the phenomenon of noun incorporation in Inuktitut, its limited range of verbs, and its obligatory nature are all explained readily under a light verb account. This analysis also provides insight into light verbs, as noun incorporation in Inuktitut is a robust marker of verb class.

INTRODUCTION.

The phenomenon of noun incorporation has received much attention in the linguistic literature over the years (Baker 1988; 1996, Rosen 1989, Anderson 2000, etc.). A construction is conventionally considered to be an instance of noun incorporation (NI) when a (usually bare) noun is found either morphologically attached (1a,b) or in close association with the verb (1c).

- (1) a Wa'-ke-nákt-a-hnínu-'
Fact-IsS-bed-Ø-buy-PUNC¹
I bought the/a bed. (Mohawk, Baker 1996 p. 279)
- b. qukiuti-taaq-tunga
rifle-get-intr.part.Is.
I got a rifle. (Inuktitut - Mittimatalingmiut²)

¹Abbreviations for Mohawk are: S: subject; O: object; N: neuter; FACT: factual; PUNC: punctual; DUP: duplicative; NSF: noun suffix; CAUS: causative. For Niuean they are Abs: absolutive and Emph: emphatic. For Halkomelem they are aux: auxiliary; det: determiner. For Chukchi they are: ABS: Absolutive; Imper: Imperative; E: epinthetic; subj: subject; obj: object. Abbreviations for Inuktitut are intr: intransitive; trans: transitive part: participial mood; indic: indicative mood; conj: conjunctive mood; caus: causative mood (usually meaning 'because' or 'when'); mod: modalis case; neg: negative; rel: relative case.

²Inuktitut examples are either from my own fieldwork, joint work with Jean Briggs or from published sources. The joint work with Jean Briggs is on the Utkuhiksalingmiut dialect. The facts are essentially the same across dialects except where noted. See also Fortescue (1983); Sadock (2002). The orthography used is the roman orthography used by speakers of each dialect.

RESTRICTING NOUN INCORPORATION

- c. Takafaga ika tumau ni a ia
hunt fish always Emph Abs he
He is always fishing. (Niuean, Massam 2001 p. 157)

In the Mohawk example in (1a) the noun stem *nákt* ‘bed’ is embedded within the verb complex. In the Inuktitut example(1b) the noun *qukiuti* ‘rifle’ appears attached to the left of the verb. Finally in the Niuean example the noun *ika* ‘fish’ is found in non-canonical object position (Niuean is a VSO language) adjacent to the verb and without any case marking.

What has interested linguists over the years is that noun incorporation seems to involve a nominal which is both an argument of the verb, usually the object, and yet appears to be an integral component of the verbal predicate.

Baker (1988; 1996) analyses such constructions as involving syntactic movement of the head noun from object position so that it adjoins to the verb head. In contrast, Rosen (1989) argues that a lexical (non-movement) analysis can provide us with two possibilities. The first of these is where the incorporated noun satisfies argument structure through word-formation, thus preventing a syntactic object from appearing. The second is where the incorporated noun acts as a classifier, restricting the interpretation of the syntactic argument which is external to the verb (see Chung and Ladusaw 2003 for a recent approach along these lines).

Thus one of the central issues which has been debated in past decades is whether or not noun incorporation is a lexical or syntactic process. To a certain extent, the lexical vs. syntactic issue has disappeared or at least changed with the emergence of alternative theories such as Distributed Morphology (Halle and Marantz 1993; Marantz 1997), where morphology and the syntax can interact.

Neither Baker nor Rosen address Inuktitut in any depth, and both suggest that Inuktitut noun incorporation may fall outside their general analysis. In fact, Sapir (1911, 254) states that Inuktitut noun incorporating verbs (or denominative verbs as he terms them) are not canonical incorporating verbs since the “verbal elements are not verb stems but the verb-forming affixes...” Thus in both Baker’s and Rosen’s accounts, noun incorporation in Inuktitut is not central to the incorporation debate and may involve different issues.

Following Sapir (1911), Johns and Massam (1998) argue that noun incorporation across languages is not a uniform construction (see also Gerds 1998). Instead the verb + noun sequences which are termed noun incorporation in the literature are often syntactically very different, some involving heads and others involving phrases (Massam 2001). What these constructions all have in common, however, is that the nominal differs in position and/or functional categories from a canonical object DP.

The central goal of this paper is to demonstrate that the phenomenon referred to as noun incorporation³ in Inuktitut is the result of a linguistic parameter wherein a general requirement of the language is that a lexical element, henceforth ROOT, must be the leftmost element in the verb complex. A second and related claim is that all verbal elements in the Inuktitut noun incorporation construction are not ROOTS, but are instead functional elements or light verbs (see Jespersen 1965; Kearns 1988; Larson 1988; Grimshaw and Mester 1988; Pesetsky 1995;

³ I will continue to use the term noun incorporation to refer to the phenomenon throughout this paper, even though the analysis proposed does not utilize the traditional concept of incorporation as nominal argument moving to form a complex predicate within the verbal domain.

RESTRICTING NOUN INCORPORATION

Marantz 1997). The second claim is supported by recent work on verb class semantics by Heidi Harley (e.g. Harley to appear). Thus noun incorporation in Inuktitut will be shown to be a direct consequence of the nature of the verbal elements which involved. If the verbal element is a ROOT, the leftmost ROOT requirement will be met by the verb, and a noun incorporation construction will be impossible. On the other hand, if the verbal element is not a ROOT, but is instead a light verb, the nominal ROOT will appear to "incorporate" as it moves to the ROOT position of the verbal complex. In other words, there is no special operation targeting nouns or involving theta role assignment, such as the Morphological Visibility Condition found in Mohawk (Baker 1996, 17). Instead there is a general ROOT leftward movement within the language, similar to V movement in VSO languages (see Carnie and Guilfoyle 2000).

Noun incorporation in Inuktitut is therefore distinct from the Iroquoian cases discussed in Baker (1988; 1996); Mithun (1984); Mithun and Corbett (1999), etc. The leading insight for Inuktitut is Sapir's comment mentioned above that the verb-forming affixes are "not verb stems." That these verbal elements are not standard verbs stems will be shown to explain the fact that they are a finite set and have very general meanings (Johns 1987; Mithun 1999; Mahieu and Tersis 2003).

Analysis will show that noun incorporation in Inuktitut is directly linked to the class of the verbs involved.⁴ More specifically, these verbs are all "light" in the sense that they do not contain any semantic elements which characterize full verbal entries, e.g. manner. Instead these verbs consist solely of light verbs plus sometimes verbal operators, e.g. negation, etc. (see Koenig and Davis 2001 for elements of this nature within lexical items).

The overall thrust of the analysis is to identify and analyse the empirical restrictions of the phenomenon in Inuktitut we call noun incorporation, while showing at the same time that these restrictions are the basis of the entire phenomenon itself. In section 1. I will present an overview of noun incorporation in Inuktitut and a number of analyses which have been proposed. We will see that the issue as to the nature of the verb class involved has been almost entirely ignored. Section 2 is an extensive exploration into the lexical semantics of the entire set of verbs which incorporate, of necessity demonstrating that each and every one of them is a light verb in the sense defined above. In section 3, I explain the position of the noun in a noun incorporation construction through a language-specific property whereby the EPP feature in Inuktitut requires moving a ROOT (unspecified for lexical category) to the leftmost position in the verbal complex. The nature of light verbs is that they cannot satisfy this requirement. As a result, the movement of the nominal ROOT pertains to this general EPP requirement, and is not an operation targeting nominals. In section 4. I will discuss the implications of this analysis for other languages, making the claim that universally, where noun incorporation is obligatory, light verbs are involved. Section 5. refutes the possibility of an analysis bases on grammaticalization.

1. NOUN INCORPORATION IN INUKTITUT

Noun incorporation in Inuktitut is very productive and very common in the language. Allen (1994) and Parkinson (1999) both show that Inuit children acquire productive noun incorporation at an early stage, attesting to its central role in Inuktitut grammar (see section 4. for discussion). Although the noun in an NI construction is morphologically attached to the verb, it nonetheless

⁴For an important view on verb class, see Rappaport Hovav and Levin (1998).

RESTRICTING NOUN INCORPORATION

has properties which indicate that it is neither a verbal modifier nor a compound. In a seminal article Sadock (1980) provides arguments that in Kalaallisut (West Greenlandic Inuit), NI is clearly a syntactic phenomenon (to be discussed further in 1.1), rather than simply compounding.⁵ From this it can be concluded that noun incorporation in Inuktitut provides an interesting example of the interaction between the syntax and the morphological component.

1.1. *Previous Investigations of Noun Incorporation in Inuktitut*

Noun Incorporation in Inuktitut has been discussed by a number of linguists over the years. Undoubtedly the most influential paper is that of Sadock (1980), who labels the Inuktitut construction as noun incorporation and demonstrates many of its core syntactic properties. One of the most striking of these is the potential for the incorporated noun to have referential properties. Sadock shows that nouns in noun incorporation structures can be referred back to in the discourse context. Using examples such as (2a), from a Kalaallisut children's story book, Sadock shows that once an incorporated noun has been introduced into the discourse, subsequent sentences may refer to it through agreement on verbs. Similar examples are shown in the Canadian dialect Mittimatalingmiutut,⁶ as in (2b). I have coindexed the relevant elements to aid in interpretation.⁷

(2) a. Suulut timmisartu_i-lior-poq
Søren plane-make-intr.indic.3s.
Søren made a plane_i

Suluusa-qar-poq_i aquute-qar-llu-ni_i-lu
wing-have-intr.indic.3s. rudder-have-inf.-3Rs-and
It_i has wings and a rudder (Kalaallisut from Sadock, 1980; 311)

b. Johnny uvirniru_i-liu-laur-mat
Johnny shirt-make-past-intr.caus.3s.
Johnny made a shirt_i

nulia-nga angirra-rami taku-llu-ni-uk_i
wife-Poss3s. home-cause4s. see-conj.-4s.-3s
And his wife came home and she saw it_i (Mittimatalingmiutut)

Thus we see in (2a) that the third person singular agreement markers *-poq* and *-ni* in the

⁵There are a number of pieces of evidence which make a compound analysis impossible. First and foremost, Inuktitut does not have either verbal or nominal compounds, i.e. there is nothing equivalent to English *toothbrush*, *photocopy* or *dog food*. (see Sadock 1980; 1991).

⁶Due to space considerations I will refrain from giving multiple dialect examples for each point but will vary the dialects throughout the paper. Unless otherwise mentioned, the reader may assume that the facts hold for all dialects I have worked with.

⁷Inuktitut does not distinguish 3 person for gender or animacy. Accordingly the translations are given in English according to context, or translation of the moment.

RESTRICTING NOUN INCORPORATION

structure. Instead Bok-Bennema and Groos' account posits that the nominal is generated as sister to the verb, and then attaches post-syntactically based on the morphology of the verb. The stipulation is that NI verbs have affixal properties, i.e. they must morphologically attach. This accounts predicts that, in principle, any verb in Inuktitut could be an affix. As we will see, the verbs in question are not idiosyncratic, but are a natural class of verbs - light verbs.

Recently Van Geenhoven (1998a, b) presents an extensive investigation into the formal semantics of nouns involved in incorporation in Kalaallisut. She proposes an account involving semantic incorporation, whereby semantic properties relating to indefinites are absorbed by the incorporating verb, and the incorporating verb itself attributes the existential interpretation of the nominal (making it referential). Thus, like all previous analyses, incorporating verbs are considered to be identical in all respects to non-incorporating verbs except for stipulated properties. For Van Geenhoven, the stipulation is that these verbs have absorbed something extra, i.e. they are by definition semantically more complex. This account is the opposite of the analysis proposed in this paper. In the sections to follow, I will demonstrate that the semantics of the Inuktitut incorporating verbs is consistently less complex than that of non-incorporating verbs. This property need not be stipulated as it is a universal property of this verb class.

In summary, while previous analyses have shed much light on noun incorporation in Inuktitut, there is one prominent omission in the discussion overall. This is the fact that, although every linguist working in this area is fully aware that NI in Inuktitut is restricted in distribution, no one has attempted to provide any explanation for the question which arises from this fact. This is: Why is noun incorporation restricted to a certain set of verbs? As noted in Johns (1987), the lexical semantics of incorporating verbs appears to have a commonality. Here, I propose a basis for the verb class as a whole. This is that these verbs are light verbs, or little *v*, i.e. functional verbs lacking ROOT elements (Marantz 1997).

2. INCORPORATING VERBS IN INUKTITUT

Noun incorporation in Inuktitut is restricted to a finite set of verbal items within each dialect. The set of verbal items is essentially consistent across dialects. Unlike other languages where NI appears to be optional, e.g. Mohawk (see section 4.1), if a verbal element may appear without an incorporated noun, as in (5a), then an N can never be incorporated, as illustrated by (5b).

(5) a. pitsi-mik nigi-vunga
 dried.fish-mod. *eat-intr.indic.1s.*
 I am eating dried fish (Labrador)

b. *pitsi-nigi-vunga
 dried.fish-eat-intr.indic.1s. (Labrador)

Equally, if a verbal item permits NI, as in (6a), then NI is obligatory, as shown by the ungrammaticality of (6b), where the NP is external, parallel to the grammatical (5a) above.

(6) a. pitsi-tu-vunga
 dried.fish-consume-intrans.indic.1s.
 I'm eating dried fish (Labrador)

RESTRICTING NOUN INCORPORATION

- b. *pitsi-mik tu-vunga
 dried.fish-mod. *consume-intrans.indic.1s* (Labrador)

Thus it is clear that in Inuktitut there is a major division between verb classes with respect to nominal attachment; one class must obligatorily incorporate and the rest (the elsewhere case) cannot. It is also a well-known fact that the incorporating class is a smaller set of verbs⁹ than those which do not incorporate (open class). There are no restrictions as to which nominal may be incorporated other than general pragmatic ones (Allen 1994). Thus how commonly a noun is found associated with the verb has absolutely no bearing on the likelihood of it being incorporated, unlike the cases described for Iroquoian (Mithun 1999; Barrie 2004). The source of the incorporation stems only from the verb's requirements.

Previous investigations of Inuktitut noun incorporation to date have focused on either the syntactic or formal semantic properties overall of the construction, and especially on the semantic interpretation of the incorporated nominal. In the following section, we will review what little which has been said about the nature of the verbs involved.

2.1 Some Semantic Properties of Noun-incorporating Verbs in Inuktitut

In recent years, formal semanticists have been investigating Inuktitut, e.g. Bittner (1994). In particular, Van Geenhoven (1998a, b) has examined in detail the semantics of noun incorporation. Under Van Geenhoven's account, existential operators are contained within incorporating verbs. As discussed above, her central goal is to argue that the incorporated N is a predicate, forming a complex predicate with the verb, and that incorporation involves base-generation, and not movement, of the nominal. Van Geenhoven distinguishes between incorporating verbs and non-incorporating verbs, as shown in (7a) and (8a), where I provide Inuktitut (rather than Kalaallisut) examples. The formal semantic representations for these two verbs (incorporating and non-incorporating 'eat') from Van Geenhoven (1998b) are shown in (7b) and (8b).

- (7) a. *puiji-vini-mmik* *nigi-vunga* [non-incorporating 'eat']
 seal-former-mod. *eat-intr.indic.1s*
 I'm eating some seal meat' (Labrador)

- b. $\lambda y_e \lambda x_e$ [eat (x,y)] (Van Geenhoven 1998b, ex. 38)

- (8) a. *puiji-vini-tu-vunga* [incorporating 'eat']
 seal-former-eat-intr.indic.1s
 I'm eating seal meat (Labrador)

- b. $\lambda P_{\langle e,t \rangle} \lambda x_e \exists y$ [eat (x,y) \wedge P(y)] (Van Geenhoven 1998b, ex. 32)

In previous accounts discussed in Section 1, it was an affixational requirement which

⁹ Numbering maximally around ninety, based on Fortescue (1983).

RESTRICTING NOUN INCORPORATION

distinguished incorporating verbs. Van Geenhoven further distinguishes incorporating verbs by their semantics. Note that the formal semantics of the non-incorporating verb 'eat' in (8) is a subset of the incorporating 'eat' in (7). The augmented forms of 'eat', the incorporating verb in (8b), has a number of extra properties in addition to the base semantics of 'eat' and its arguments. These include a) a slot for the property denoted by the nominal, plus b) an existential operator as part of the verb meaning.

Van Geenhoven does not directly address the issue as to which verbs incorporate. The question remains for her analysis as to why there are no NI verbs like 'break', 'tickle', 'cook' etc. with the properties shown in (8) above. Yet such verbs never incorporate, and this is consistent across all dialects of Inuktitut. The closest Van Geenhoven (1998b; 243) gets to this question is her statement that "a semantically incorporating verb does not introduce stages of a kind." This suggests that verbs which entail that the object undergo a change of state never incorporate. This is in fact true, as will be shown in the remainder of this section. Incorporating verbs can describe an object coming into being, coming into sight, etc., but they cannot describe an object changing from one state to another. Nor is there is ever any description of the manner by which the subject of the incorporating verbs comes into contact with the object, thus actions such as tickling, brushing, etc. are not possible incorporating verbs. Previous analyses implicitly allowed for these non-occurring possibilities.

Johns (1987; 1999a, 2000; 2003) points out that the NI construction in Inuktitut seems to involve very basic verbs with related semantics, and that verbal elements in NI constructions have a more general meaning than those in non-NI constructions. Tersis and Mahieu (2003) come to a similar conclusion, arguing that the various meanings associated the these verbs involve polysemy rather than numerous instances of homophony.

Mithun (1999, 50) also points out that in Yup'ik, a language quite closely related to Inuktitut, not only do verbs and the verbal affixes involved in noun incorporation differ in distribution, but that the affixal verbs found in NI are "typically more general and diffuse semantically than roots." It is exactly this generalization which is being utilized here in order to explain incorporation (although from a different perspective than that in Mithun 1999).¹⁰ Like Mithun, I argue that the semantics of incorporating verbs is fundamentally less distinct than that of non-incorporating verbs. This contrasts with all previous analyses mentioned above.

What we find upon examining NI verbs as a class is that they generally seem to involve either a) a nominal functioning as some sort of predicate nominal, or b) a predication involving an existing object. All other NI verbs are simply variations of these two canonical types. The variations will be seen to be based on the presence or absence of operators of negation, etc. This remarkable simplicity of class explains why so many incorporating verbs forms antonym pairs, e.g. 'getting'/'losing', etc. We will see that these verbs are members of a verb class which does not contain substantive lexical material; therefore they are not ROOTS. The properties of this class of verb has consequences when combined with a language-specific requirement that there be a ROOT at the leftmost position in the word. The class of incorporating verbs are unable to satisfy this requirement. As a result, the nominal will move to the leftmost position, not by virtue of being a nominal, but because it is a ROOT.

What is needed then are two lines of argumentation. The first will involve an empirical demonstration that all incorporating verbs in Inuktitut can be shown to be light verbs, i.e. verbs

¹⁰Mithun claims that NI is used in instances where the action is typical, and is less likely to be used in novel situations involving the N. As mentioned above, this is not so in Inuktitut.

RESTRICTING NOUN INCORPORATION

lacking ROOT properties. The second will explain how the nominal comes to occupy the ROOT position. Noun incorporation will be shown to be a subset of a general rule of ROOT movement in the language, triggered by an EPP feature. Noun incorporation in Inuktitut is orthogonal to nominal licensing, as the movement operation does not target arguments *per se*.

For the remainder of this section, I will survey in detail the class of noun incorporating verbs, showing that every one is a light verb, based on the work of Hale and Keyser (2002) and Harley (2003; to appear). I will show that in each and every instance these verbs lack ROOT ($\sqrt{\quad}$) elements (see Pesetsky 1995; Marantz 1997). This is a falsifiable and therefore strong claim about the nature of the verbs involved.

2.2 NI Verbs in Inuktitut

The Inuktitut word obligatorily consists of a ROOT and an inflection. Between these two elements appear a potentially infinite number of affixes, referred to in the literature as *postbases* (or non-inflectional affixes). Postbases consist of verb modifying elements, nominal modifying elements, elements which change a verb into a nominal, and elements which change a noun into a verb. The latter are the noun incorporating affixes. The most extensive and important research into the distribution and properties of postbases is Fortescue (1983). Fortescue divides postbases into 26 classes on the basis of semantic similarity. Among the many postbases are those which appear to be verbs based on their English translation. Johns (1999b), however, argues that at least volitional verbs postbases are not actual verbs, but modal elements.

Of Fortescue's 26 classes of postbases, nine classes contain noun incorporating verbs. Note that Fortescue himself does not describe this phenomenon as noun incorporation but characterizes these elements as verb forming.¹¹ Fortescue provides approximately ninety examples of different incorporating verbs from each of four dialects, ranging across the arctic from Greenland to Alaska.¹² The affixes are remarkably similar in both meaning and form across dialects (once the phonological systems of the different dialects is taken into account).

In (9) I provide Fortescue's nine classes, each class label followed by one example of this class. Note that Fortescue's class labels are based on semantic commonalities; thus in Fortescue (1983) each label represents an entire set of semantically similar verbs.

- (9) a. Being and becoming
arna-u-junga
woman-be-intr.part.1s
I'm a woman (Mittimatalingmiutut)

¹¹Some readers might posit that the correct analysis starts from the standpoint that these elements are affixes. Such an approach would lose the generalization shown here that it is the nature of the verbs which makes them affixes, not vice-versa. Counterevidence to the claim made here would be the existence of NI verbs with root semantics. The affixal analysis overgenerates and cannot be falsified.

¹²These are West Greenlandic, Tarramiut, Copper and North Slope.

RESTRICTING NOUN INCORPORATION

- b. Lacking
ulu-iruti-junga
ulu-lack-intr.part.1s.
I'm out of ulus [a knife generally used by women] (Mittimatalingmiutut)
- c. Feeling
tiki-lluq-tunga
index.finger-have.a.sore-intr.part.1s
I have a sore index finger (South Baffin)
- d. Having
savi-qauq-tunga
knife-have.a.lot-intr.part.1s
I have plenty of knives (Mittimatalingmiutut)
- e. Acquiring
qukiuti-taar-tunga
rifle-get-intr.part.1s.
I got a rifle (Mittimatalingmiutut)
- f. Movement
sugusi-up illu-nga-no-vunga (= ex. 4b. above)
child-rel. house-3s.-go.to-intr.indic.1s.
I am walking to the child's house (Labrador)
- g. Acting and seeming like
Naatali-uquuji-juq
Natalie-resemble-intr.part.3s
He/she looks like Natalie (Mittimatalingmiutut)
- h. Doing with and providing
tuktu-vinir-tuq-tunga
caribou-former-consume-intr.part.1s.
I'm eating caribou meat (Mittimatalingmiutut)
- i. Judging and Saying¹³
tipatsauti-sunniq-tuq
perfume-smell-intr.part.3s
It smells like perfume (South Baffin)

The proposal made here is that each NI verb is a light verb, and that variations involve simple modification through addition of elements from a fixed set, e.g. negation, or other elements of

¹³This class is mixed in that it contains both verbs which are noun-incorporating, as well as verbs which attach to clauses or quotations, e.g. *niraaq* 'say (that)...'. I will only deal with the former here. All the previous classes contain only noun-incorporating verbs.

RESTRICTING NOUN INCORPORATION

this type. In other words, the verb class as a whole consists only of what in Generative Grammar is called little *v*. No lexical *V* or *ROOT* segment is present.

This proposal resembles in some respects the analysis of Koenig and Davis (2001) who, working in a HPSG framework, claim that the lexical entry of a verb is divided into two parts. One part they call modal (here little *v*), which can be modified by semantic operators, such as negation, aspect, etc. The second part they call the situational core (here the *ROOT*), which contains the verb's core argument structure. The claim argued in this paper is that there is no situational core (or *V* element) involved in incorporating verbs. As a result, the existence of a finite subset of verbs which incorporate in Inuktitut is not a problem to be solved, but is instead a robust set of evidence as to the nature of light verbs, or little *v*.

It will be seen that there are no genuine verb *ROOTS* in incorporation constructions in Inuktitut, and all incorporating verbs are the equivalent of a semantically minimal functional core (the light verb), with permutations created by the addition of the operator-like elements. The core cases and their permutations will be presented shortly. Before proceeding to this topic, however, we will briefly consider the nature of the bare nominal in Inuktitut, as the bare nominal will be shown to have features essential to our understanding of the construction.

2.3 Bare Nominals in Inuktitut

In recent years there has been some debate as to the properties of bare nominals crosslinguistically. While many linguists believe that bare nominals universally are predicates to begin with, and only become referential through derivation (c.f. Longobardi 1994 and references therein), recent work has argued that in some, or all languages, nominals are inherently referential (Chierchia 1998; Baker 2003). While Chierchia proposes that only some languages without determiners have inherently referential nominals, thus explaining their lack of articles, etc., Baker makes this claim universal, such that even languages that obligatorily must have determiners have referential nominals. For Baker, the capacity for referentiality is the defining feature of the nominal category, and contrasts with other categories in this respect. I agree with both Baker and Chierchia that there exist languages where nominals are inherently referential. I claim that Inuktitut bare nominal roots are referential (Johns 2003).¹⁴ Compton (2004) supports this claim, showing that Inuktitut nouns not only lack articles, but also lack *D*-quantifiers such as *each*, *no*, *every*, etc.. There is no need for articles in Inuktitut, as shown in (10), where the noun has absolute, or zero, case.

(10) qimmiq taku-lauq-tara [Mittimatalingmiutut]
 dog (abs) *see-dist.past-tr.part1s/3s*
 I saw the/a dog

In addition, Inuktitut lacks generic interpretations in the singular. Compton and Johns (2005) further demonstrate that some of the more "exotic" aspects of Inuktitut syntax derive from this

¹⁴ Johns (1987, 81-85) explicitly rejects the possibility that nominals are predicates, or even ambiguous in category, on the basis of the fact that nominal and verb roots are found in complementary distribution, similar to some of the arguments in Baker (2003).

RESTRICTING NOUN INCORPORATION

property of nominals.¹⁵

Wharram (2003), in an investigation into the formal semantics of antipassive clauses, claims that Inuktitut indefinite nominals (i.e. bare nominals) are always non-quantificational, and that this accounts for why they always have wide scope, even outside of islands. Consider the bare nominal *qajaq* in (11).¹⁶

(11) *miali* *kappiasung-niaq-t-u-q* [Wharram 2003, 113 (Baffin)]
Miali(ABS) *be.frightened-nfut-part-[-tr]-3sABS*

arvi-up *qajaq* *katja-kpagu*
bowhead whale *kayak(ABS)* *hit-cond.[+tr].3sERG.3sABS*

- i. There is a kayak *x*, and Miali will be frightened if a particular bowhead hits *x*.
- ii. #Miali will be frightened if the bowhead hits any kayak

Unlike the English sentence *Miali will be frightened if the bowhead hits a kayak*, the Inuktitut version in (11) is not ambiguous. The bare nominal *qajaq* must be interpreted as a referential kayak, not any kayak. Examples such as those in (11) provide support for the claim made here, that nominals in Inuktitut are inherently referential.

In summary, the present analysis differs from Van Geenhoven (1998), who claims that referential properties of incorporated nouns derive from the properties of the incorporating verb, not the nominal itself. Here the verb does not add referentiality to the noun. Instead, the question is turned around. How does the referentiality of a nominal appear to be dampened or suppressed in some constructions?¹⁷ In the following section, this issue will be relevant with respect to predicate nominals.

2.4 Operators and Light Verbs

In this section I will demonstrate that the entire set of incorporating verbs shown in (9) can be naturally explained and delimited by positing that they consist only of light verbs. This analysis relies on the work of Hale and Keyser (2002) and Harley (2003; to appear). We will see that while NI verbs may have a number of operator-like features which allow them to form subclasses, their structure is never more than little *v*, i.e. no manner, nor change of state, , nor

¹⁵ For example, since there are no D-quantifiers, the expression meaning 'No dog is loose' will have to be embedded under the negation of the existential verb – but since the existential verb is a light verb, the sentence is:

i. *qipmir-mik ahinait-tuq-taqa-nngit-tuq*
dog-mod. loose-participial-exist-neg.-part.3s
'There is no loose dog' (Qamani'tuarmitut)

The construction is elaborate by English standards but completely necessary and therefore quite unexceptional in Inuktitut.

¹⁶ *nfut*=non-future; *tr*=transitive; *ERG*= ergative; *cond*=conditional mood

¹⁷ For example a partitive case morpheme must be added in some dialects to get an indefinite interpretation (Johns to appear).

RESTRICTING NOUN INCORPORATION

any adjectival property. Thus these verbs have no lexical content - are not ROOTS. The characterization of noun incorporating verbs as simple non-ROOTS effectively restricts their set to light verbs, and automatically and correctly precludes incorporating verbs such as 'tickle,' 'clean,' 'bake,' 'crumple,' 'marry,' etc..

The main distinction among incorporating verbs relates to whether or not the incorporated noun has independent reference. This is the difference between 'be' versus 'have'. Following Van Geenhoven (1998a, b), I will argue that the verb establishes the contrast, not the nominal; however, I differ from Van Geenhoven in that I assume that all Inuktitut Ns are inherently referential, as discussed in section 2.3. The minor variations among the verbs will be shown to derive from basic semantic factors such as negation, etc. In the following sections, I will provide a detailed overview of the ways in which operators and other functional elements can ornament light verbs. Before doing so, we will first examine some of the core unadorned light verbs in Inuktitut.

Consider first 'have'. Following recent work on light verbs of possession (Harley 2003), I will assume that 'have' in Inuktitut has the properties shown in (12a), consisting of a preposition meaning 'have' which is located in the light verb position.

(12) a. [P_{have}]_v

a. qimmi-qaq-tunga
dog-have/exist-intr.part.1s.
I have a dog.

(South Baffin)

b. tuktu-qaq-tuq
caribou-have/exist-intr.part.3s.
There are caribou in Nunavut.

Nunavung-mit
*Nunavut-Loc.*¹⁸

(South Baffin)

The primitive P_{have} (Kayne 1993) carries the information that the entity in question is possessed (12a), or located permanently, as in (12b). This light verb is stative by default. We do not need to add properties which allow the verb to make the nominal referential because the nominal is already referential (see section 2.3).

Now consider the copula 'be' in Inuktitut. This verb has the representation shown in (13a), where an identity operator occupies little v. Based on Williams (1980), the identity (or predication) operator requires that the referential index of both the nominal and the subject be one and the same. This light verb is also a default stative.

(13) a. [I]_v

b. Saali ilisaiji-u-juq
Sally teacher-be-intr.part.3s.
Sally is a teacher.

(Mittimatalingmiutut)

¹⁸ South Baffin has collapsed cases *mi* (locative), *mik* (modalis) and *mit* (ablative) to *mit*.

RESTRICTING NOUN INCORPORATION

- c. inu-u- \hat{r} unga
inuk-be-intr.part.1s.
I am an Inuk (Eskimo) (Utkuhiksalingmiutut)

Yet a third basic light verb core will be one with the meaning 'do' (Harley to appear). This verbal element in Inuktitut denotes an unspecified prolonged activity which involves the nominal. This is usually translated in English as 'to be occupied, or busy with something,' as in (14).

(14) a. [DO]_v

- b. qukiuti-liri-juq
rifle-do.with-intr.part3s.
He/she is playing with/fixing the rifle. (Mittimatalingmiutut)

- c. kiguti-liri-ji
tooth-do.with-agent.nominal
'dentist' (Mittimatalingmiutut)

As example (14c) indicates, this morpheme is sometimes found in terms denoting occupations.

In summary, these basic light verbs form the core from which other light verb variations may be derived, as will be shown in the following sections. The elaborations involve operator or functional elements, as well as contextual distinctions. In no instance will ROOT properties, e.g. manner ('brush') or resultant states ('clean'), be found.

2.4.1 [*P_{have}*] Elaborations and *P_{loc}*

It is easy to see how related verbs are formed from the basic ones. For example, negation may be added to many of the verb meanings, producing antonyms. Thus, just as something may be possessed (see 12a above), the opposite is also found.

- (15) a. ulu-iruti-junga
ulu-lack-intr.part.1s.
I'm out of ulus. (Mittimatalingmiutut)

- b. [\sim P_{have}]_v

We will see that negation is quite productive in producing NI verb pairs.

Another operator which produces a related light verb is that of quantity or Q. When Q is outside of the light verb, as in (16a), it produces the interpretations whereby the nominal exists in quantity, as in (16b)

- (16) a. [P_{have}]_v Q

RESTRICTING NOUN INCORPORATION

- b. savi-qauq-tunga
knife-have.a.lot-intr.part.1s
I have plenty of knives. (Mittimatalingmiutut)

Naturally, it too may appear with negation, as in (17).

- (17) a. [\sim P_{have}]_vQ

b. savi-kiksa-rama
knife-not.have.enough-intr.caus.1s
I am short of knives. (Mittimatalingmiutut)

Note that there are no independent elements in the verb *-kiksaq-* ‘not have enough.’ The meanings are part of the light verb in question.¹⁹

Eventiveness can also create new verbs. Given that light verbs are inherently states, the only effect which an event operator *e* can have on these states is to turn them into an event with a final state. Thus the inchoative verb *-taaqa-* ‘get’ is the eventive counterpart of [P_{have}], as shown in (18); see Harley (2003), who discusses a similar analysis for English *get*.

- (18) a. e[P_{have}]_v

b. qukiuti-taaq-tunga
rifle-get-intr.part.1s
I got a rifle. (Mittimatalingmiutut)

Here we see that the addition of *e* to the light verb produces the inchoative meaning.

It is of no surprise that a negative form of (18a) exists as an incorporating verb as well.

- (19) a. e[\sim P_{have}]_v

a. ulu-irsiq-tuq
woman's.knife-cannot.find-intr.part.3s
She can't find her ulu.²⁰ (Mittimatalingmiutut)

A related class of verbs which falls under the account proposed here are the set of verbs discussed in Van Geenhoven (2002). An example of this type (morpheme gloss mine) is shown in (20).

¹⁹ Tadataka Nagai (p.c.) says that many of the complex NI verbs in Inuktitut and Kalaallisut are transparent in Iñupiaq. Further research is necessary on the issue of lexicalization of postbases and dialect differences.

²⁰ In some dialects, the cognate of this morpheme is translated as ‘to lose’ (see Fortescue 1983).

RESTRICTING NOUN INCORPORATION

- (20) Nuka-p puisi ame-er-paa
Nuka-rel. seal(abs) skin-remove-trans.3s/s
Nuka removed the skin from the seal

[Kalaallisut from Van Geenhoven 2002, ex. (1)]

As Van Geenhoven (2002) convincingly shows, these verbs do not involve possessor raising but are instead are verbs which seemingly have three arguments, an agent, theme (incorporated) and a goal. In other words, the most accurate translation of (20) is the one shown, and not ‘Nuka removed the seal’s skin,’ as would be the case under a possessor raising analysis.²¹

Verbs of removing and providing might seem to be a problem for the NI light verb analysis, under the assumption that simple light verbs do not involve causation.²² Removing and providing are causative versions of ‘not get’ and ‘get.’ An explanation, however, is readily available. An independent property within the verb - transitivity of the mood/agreement morpheme - creates causative forms from intransitive verbs in Inuktitut (see Spreng 2001). It is clear that all verbs of removing and providing are based on simpler forms, and that it is the mood morphology on the far right of the verb which controls whether or not the verb is interpreted as having/lacking versus providing/removing. Consider data from the Inuvialuktun (Siglit) dialect.

- (21) a. niaqu-iq-tuq
head-lack-intr.part.3s
It has no more head. (Inuvialuktun - Lowe 1984, 109)
- b. niaqu-i-gaa
head-lack-tr.part.3s/3s
He took its head off (Inuvialuktun - Lowe 1984, 109)

The NI verb in (21b) is the same as in (21a), with differences based on phonological context. The removal interpretation comes about as a result of the transitive morphology on the right of the verb, i.e. [caused [it not to have a head]].

Another light verb within this set is the one where an inalienably possessed object has negative affective value, i.e. the negative qualities of the nominal have a direct negative effect on the subject. The nominals can be body parts (22b) or clothing (22c), but not relations or general possessions (22d, e)²³. This can be seen in (22).

²¹It is not clear the degree to which the possessor raising analysis for these constructions in Inuktitut is a “straw man”. Van Geenhoven (2002, 760) attributes it to Bittner (1994). On p. 769 Van Geenhoven states that her discussion will be on how the construction “would be analysed in a Bittner and Hale (1996) framework.” In fact Bittner (1994, 67) describes one of these constructions as containing a “triadic suffix,” in keeping with Van Geenhoven’s subsequent analysis; however on p. 71 Bittner analyses a similar construction as “pseudo-triadic” or possessor raising.

²²Some linguists, e.g. McGinnis (2004), claim that causation is a separate projection from inchoative. The class of NI light verbs support this position.

²³It may be that this verb has more in common with [I]_v than with [P_{have}]_v. We could characterize the restriction to body parts and clothing as a subindex relation, i.e. part/whole.

RESTRICTING NOUN INCORPORATION

(22) a. [P_{have}] _vBAD

- b. naa-lluq-tunga
stomach-have.a.bad-intr.part.1s
I have a sore stomach(South Baffin)
- c. atigi-lluq-tunga
shirt-have.a.bad-intr.part.1s
I have a bad shirt (South Baffin)
- d. *ui-lluq-tunga
husband-have.a.bad-intr.part.1s
I have a bad husband (South Baffin)
- e. *qimmi-lluq-tunga
dog-have.a.bad-intr.part.1s
I have a bad dog (South Baffin)

We can assume that positive and negative affect values are not ROOT properties like 'red' or 'rich', but are instead functional.²⁴

Recall that P_{have} verbs, discussed above, are light verbs where a preposition P_{have} occupies the light verb position. As discussed in Harley (2003), its counterpart is the preposition P_{loc}, which does not conflate or incorporate to little *v*, and is involved in the double complement structures of dative alternations involving English *give* (and also in possession in languages which lack P_{have}, e.g. Irish). Since P_{loc} in Inuktitut (as in other languages) cannot form part of little *v*, it will appear outside of little *v*. Thus the NI verbs having P_{loc} display a pattern N+P+*v*, rather than simple N+*v* incorporation.²⁵ Examples illustrating P_{loc} forms meaning 'in', 'to' and 'from' and 'through' are shown in (23). All examples are robust in Inuit dialects, but not in related languages such as Yup'ik (Sadock 2002).

(23) a. P_{loc}+ []_v²⁶

- b. Toronto-miit-tunga
Toronto-be.in-1s.part.
I'm in Toronto (South Baffin)

²⁴ There is another verb of physical distress which appears to be related to the light verb meaning 'to be busy with' (see 14. above).

i. siu-siri-juq
ear-trouble-intr.part.3s
His ear aches/he's having trouble with his ear (Mittimatalingmiutut)

²⁵ Thanks for Heidi Harley for suggesting this line of analysis.

²⁶ I leave aside the issue of the content of these verbs. Heidi Harley (p.c.) suggests that they are [V become [X P_{loc} Y]] etc. The main point is that are clearly light verbs.

RESTRICTING NOUN INCORPORATION

- c. illu-ga-no-vunga (Labrador)
house-1poss.-go.to-1s.indic
I'm going to my house'
- d. Ottawa-mingaq-tunga (South Baffin)
Ottawa-come.from-1s.part.
I'm coming from Ottawa
- e. Ottawa-kuuq-tunga (South Baffin)
Ottawa-go.through-1s.part.
I'm passing through Ottawa

I will discuss the breakdown of the verbs and their syntax in more detail in section 3.

2.4.2 Elaborations on [I]

Having seen that the core verb P_{have} in Inuktitut has elaborated forms, we now turn our attention to verbs based on the copula 'be.' We do not expect that this verb set will mirror exactly the same properties as the P_{have} set, i.e. with identical operators attaching. The claim is simply that the [I] light verb will form the base for a number of modifications, none of which involve complex structure beyond that of light verbs, i.e. especially no ROOT properties. As discussed above, this restriction will explain the breadth of the entire NI verb set, at the same time delimiting it.

Just as the e operator in P_{have} produces a verb wherein there is an event resulting in stative P_{have} , so does the e operator in [I] determine an event resulting in stative [I], as shown in (24).

(24) a. $e[\text{I}]_v$

- b. kigusiriji-nnguq-tuq
dentist-become-intr.part.3s
He/she has become a dentist. (Mittimatalingmiutut)

We now turn to another group of incorporating verbs (Fortescue's class i. from 9. above). These all involve the evaluation of the identity of something through its physical properties. Thus something is said to seem like X in some physical way. Consider the example in (25).

(25) a. [IVISION]

- b. Naatali-uqquuji-juq
Natalie-resemble-intr.part.3s
He/she looks like Natalie. (Mittimatalingmiutut)
- c. qamiuti-qpaluk-tuq
sled-resemble-intr.part.3s
It looks like a sled (Utkuhiksalingmiutut)

RESTRICTING NOUN INCORPORATION

Recall that the core distinction between many NI verbs revolves around whether the NI verb entails that the attached nominal has independent existence or not. The NI verb in (25) straddles this distinction in that identity of another referent is involved but only in a restricted sense. Identity is predicated only of a set of visual properties. We can use our operator I, which is found in the copula, but restrict it to identity solely in visual detail, as in (25a), i.e. not complete identity.²⁷ We observe that a number of NI verbs pattern in this fashion, as seen in (26-28).

(26) a. *uqqusaut* *sikituur-valuk-tuq*
 furnace(abs.) *skidoo-sound.like-intr.part.3s.*
 The furnace sounds like a skidoo. (Mittimatalingmiutut)

b. [ISOUND]

(27) a. *unnir-sunniq-tuq*
 armpit-smell-intr.part.3s.
 It smells like an armpit. (Mittimatalingmiutut)

b. *anaq-hungnit-tuq*
 feces-smell-intr.part.3s
 It smells like excrement (Utkuhiksalingmiutut)

c. [ISMELL]

(28)a. *Naatali-jjuujaaq-tuq*
 Natalie-act.like-intr.part.3s.
 She is acting like Natalie. (Mittimatalingmiutut)

b. [IACTION]

Interestingly, rather than the full five physical senses, we find both taste and touch missing. In Inuit culture, taste and smell are very closely linked, so the lack of an independent taste NI verb comes as no surprise. The explanation behind the lack of touch verbs is probably related to the fact that the verbs of restricted identity predication entail that the speaker be some distance from the entity being evaluated.²⁸ In addition, the behavioural NI verb is likely to be a further restriction of the visual restriction.

This construction provides support for the claim made above that nominals in Inuktitut are inherently referential. When there is no discourse subject for the construction, the unmarked interpretation is that the incorporated nominal exists, as in (29).

²⁷The formalisms here are reminiscent of Jackendoff (1990) and earlier work.²⁸This explanation could also explain why taste is absent (David Johns, personal communication).

RESTRICTING NOUN INCORPORATION

- (29) tulugar-valuk-tuq
raven-sound.like-part.3s
It sounds like there is a raven (Mittimatalingmiutut)

In (29), the unmarked and natural interpretation is that a raven exists, and that the speaker posits its existence by virtue of the sound. Were the nominal not referential, we would expect the unmarked interpretation to be that some thing sounds like a raven, i.e. has raven-like properties. In English, the most natural meaning of *It sounds like a raven* is that there is an object making a raven-like sound. While an existential interpretation is not ruled out entirely, it is much less salient than the one in Inuktitut.

When there is a subject with independent reference, this subject is coindexed with the property of the incorporated nominal, as in (26a), repeated here as (30).

- (30) uqqusaut sikiuur-valuk-tuq
furnace skidoo-sound.like-part.3s
The furnace sounds like a skidoo (Mittimatalingmiutut)

What happens to the reference of the skidoo here? In this instance, there must be a skidoo, but the referentiality of the skidoo is not central to the discourse. Instead, the central issue is the property [sound] of the skidoo. It is this and only this property which is predicated onto the nominal *uqqusaut* 'furnace'. There is no mapping in identity between the furnace and the skidoo. Even though Ns are referential and not predicates, the former are nonetheless objects with conventional properties, e.g. size, shape, etc. It is these conventional properties which are targeted by the restricted predication relation. The reference of the nominal subject predominates.

- (31) a. Dog_i fish_m
[smell]_i
- b. qimmiq iqaluk-sunnit-tuq
dog fish-smell.like-intr.part.3s
The dog smells like a fish (South Baffin)

As a result of the fact that a) the reference of the N does not form part of the predication, and b) the subject has independent reference, the reference of the nominal in the predicate is not available for further discussion.

- (32) *tuluga-vvalâ-vutit taku-guma-jaga
crow_i-sound.like-indic.2s see-want-part.1s/3s_i
You look like a crow_i. I want to see it; (Labrador)

Names, however, are not objects with conventional properties.²⁹ Even if a Name is created based

²⁹ We may think of common nouns in Inuktitut as being referential with a variable e (entity) depending on the discourse context, similar to pronouns. Names are referential with a fixed e.

RESTRICTING NOUN INCORPORATION

question, while the English *have* can go with *a good nap*, etc. (see also Mithun 1999).

The creation verb is shown in (35).

- (35) jappa-liuq-tunga
parka-make-intr.part.1s
I am making a parka (South Baffin)

Again, the action is very underspecified as to the means by which it took place.³² Both verbs, as incremental theme verbs, involve an activity whereby there is a nominal brought into existence incrementally, and its converse, an activity whereby there is an incremental elimination from existence or deterioration ('use') of an entity.³³ The entries for these verbs is therefore as in (36).

- (36)a. -liuq- 'make'
[DO e[~I]]

- b. -tuq- 'consume'

[DO e[I]]

What these representations indicate is that in the case of *-liuq-* 'make,' there is an activity, wherein the resulting state is that the identity of the nominals is non-identical, i.e. first there is only one entity, but as a result of the activity, there will be two distinct entities. In a similar fashion, the representation in (36b) indicates that the verb *-tuq-* 'consume' involves an activity such that the reference of the nominal becomes subsumed within that of the subject.

We have seen that verbs of creation and consumption comply with the definition of light verbs. They are extremely underspecified in their semantics; they can be accounted for with simple semantic operators. Significantly, they are antonyms. That creation and destruction verbs are currently considered to be light verbs by independent analyses (e.g. Harley to appear) is further support for this view.

In this section we have covered the NI verb types originally presented in Fortescue (1983). Note that Fortescue's classes do not map exactly to the present analysis. While Fortescue has 'having' and 'acquiring' in different classes (d. and e. respectively in 9. above), at the same time, he puts 'lack' and 'losing' in the same class (b.). In the present analysis, any notion of class derives from the presence of either similar core light verbs or similar operators. There are no *de facto* classes. The analogies between 'having', 'lacking', 'getting', and 'not finding' are more readily captured.³⁴

(1999, 50) shows that in Yup'ik, a language closely related to Inuktitut, *-liuq-* can mean 'brush (teeth)'; 'cook (reindeer meat)'; 'chop (wood)'; 'work (at store)' or 'cut (fish)', all depending on the context. Clearly this use is related to the general activity DO.

³³ Harley (to appear) discusses the fact that in English, conflated verbs of creation can only involve the body of the creator through birth, e.g. *foal*, or bodily emission, e.g. *drool*.

³⁴The NI verb *-siuq-* meaning 'to look for' is possibly related to the meaning *-taa-* 'get;' however it is not obvious whether the best means to formally express this relation is to introduce a new operator having to do with intension, i.e. that acquiring is a mental construct, or to embed the formalism for *-taa-* within an activity. It has recently come to my attention that

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To summarize, we have achieved the goal as originally stated. It has been shown that each and every noun incorporating verb is maximally a little *v* with no ROOT properties whatsoever. All NI verbs are variants of HAVE, BE, or DO. Importantly, not a single one of them involves manner of action e.g. 'paint', 'brush', 'drive', etc., nor is there any inherent change of state verbs, e.g. 'open', 'break', 'cook', etc. Such verbs can only be independent non-incorporating verbs in Inuktitut.

In the next section, we examine the syntactic structure of the construction containing an NI verb and an incorporated noun.

3. THE SYNTAX OF INUKTITUT NOUN INCORPORATION

In the preceding section we have seen that the lexical semantics of noun incorporating verbs shows that in every instance, the verb is a member of the same class (little *v*). This type of element is functional in nature (Marantz 1997), and therefore distinct from other verbs which involve lexical content or multiple little *v*'s (verbs of change of state). In this section we will focus on how this fact combines with a language-specific parameter, this being that there is an EPP feature within words in Inuktitut which requires a ROOT (+ $\sqrt{\quad}$) in a higher position. This property contrasts with other languages, where the EPP feature is either +DP, or +Pred (Massam and Smallwood 1997). Inuktitut EPP is neutral to this distinction, requiring instead only a ROOT property.

In regular (non-NI) verbs, the EPP feature probe will search, picking out the verb ROOT in verb complexes and moving it to the root position at the top of the verb complex. In instances involving NI verbs, the probe will continue past the functional verb until it reaches the first available ROOT, this normally being the nominal in complement position. As a result, the nominal ROOT will appear as the highest element of the verbal complex. Its presence in this position therefore results not from a rule or feature targeting nominals; it is not a consequence of noun licensing as in Mohawk (see Baker 1996). Instead it results from the requirements of ROOT Movement, a general, and category neutral feature of the language.

3.1 Base Generation of the Nominal and ROOT Movement

Inuktitut nominals are merged with little *v*, as shown in the structure in (39)



In English, the structure in (37), consisting of a light verb sister to a nominal element, is provided in Harley (to appear) for verbs of creation, e.g. *write a letter*, and activity verbs where there has not been any conflation or movement into little *v*, e.g. *do a dance*. Causative verbs are more elaborate than this simple structure, and necessitate minimally³⁵ a small clause with an internal

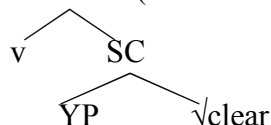
-siuq- differs from English 'look for' in that motion on the part of the subject is required. This property has been confirmed by both Sally Ikuutaq and Saila Michael. Further research on this verb is necessary.

³⁵ McGinnis (2004) argues that causatives contain two little *v* nodes, one an inchoative node and the higher the causative node. Inuktitut NI verbs only have the lower node.

RESTRICTING NOUN INCORPORATION

subject, as in (38a)

(38) a. vP (as in *clear the table*)



According to Harley, numerous English verbs are the result of conflation, or movement, of the lexical content of the complement into the light *v* position, thus the verbs *to foal to dance* etc. The set of light verbs in Inuktitut never involve such conflation. Inuktitut light verbs involve only the structure shown in (37) and are pure light verb material, i.e. little *v*, optionally combined with operators such as negation, etc. Since they do not conflate, they never contain lexical content. Thus a defining characteristic of NI verbs in Inuktitut is their resistance to conflation.

In spite of not conflating, Inuktitut noun incorporation examples have the appearance of some process resembling incorporation, since the nominal is not in the position of a canonical object. Compare again a regular object with a nominal in (39a) with an NI verb in (39b).

(39) a. *sikituu-mik* *niuviq-tunga*
skidoo-mod. *buy-part. 1s*
 I bought a skidoo (Qamani'tuarmiutut)

b. *sikituu-si-junga*
skidoo-buy-part. 1s
 I bought a skidoo (Qamani'tuarmiutut)

We see that the nominal *sikituuq* 'skidoo' in (39b) obligatorily appears in a fixed position immediately to the left of the light verb. Our question concerns the reason for it appearing in this position.

My proposal here is that in Inuktitut there is an EPP feature in Inuktitut that all words (not just noun-incorporating verb) must have a ROOT in initial position. The EPP requirement in English requires that all clauses have subjects. Recent research has shown that languages may vary in the nature of the element which is required by the EPP. Thus, V or VP can be an EPP requirement (Massam and Smallwood 1997; Massam 2001), thereby accounting for languages where these elements must be leftmost (highest) in the clause (for a number of analyses based on this assumption, see Carnie and Guilfoyle 2000).

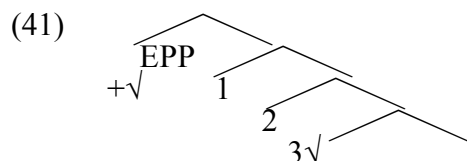
(40) *Manasa sara lamba Rakoto* [Malagasy from Rackowski and Travis 2000]
Pres.AT.wash clothes well
 Rakoto washes clothes well.

The EPP feature requires that the first element which meets its criterion move to the EPP position of the clause. In the case of Malagasy, this is the +Pred feature of EPP which triggers the fronting of the V/VP.

Unlike English (EPP = +DP) or Malagasy (EPP = +PRED), the Inuktitut EPP requires that a

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ROOT fill the position within a verbal complex or word. Consider the structure in (41).



In (41) we see that the EPP feature probe will begin searching for the closest ROOT. In a construction where there is a lexical verb such as (39a) above, the verbal ROOT will satisfy this requirement and the verb will move up to satisfy the EPP feature. As a result, all lexical verbs are the first element in a verbal complex. However in an example such as (39b), the probe will continue its search past the functional light verb and only be satisfied when it finds the first ROOT, which is the nominal in this case. As a result, the nominal ROOT moves up to satisfy the EPP feature of the word. Note that the nominal must be bare to satisfy this condition. An inflected noun (number, possession, case) will produce an ungrammatical construction.

Evidence that ROOT movement in Inuktitut words is an EPP feature can be found in the fact that, just as there are dummy subjects to satisfy the +DP requirement of the EPP in English, so there are dummy roots to satisfy the +ROOT EPP in Inuktitut. Examples can be seen in (42), where the dummy root *pi-* in (42a-c) stands in for a nominal ROOT, while in (42d), it stands in for a verb ROOT (see also Sadock 1980).

- (42) a. *pi-qa-nngit-tuq*
dummy-have-neg.-intr.part.3s
 He has nothing [Literally: He does not have something.] (South Baffin)
- b. *pi-si-juq*
dummy-buy-intr.part.3s.
 He bought something (Qamani'tuarmiutut)
- c. *pi-taqaq-tuq*
dummy-there.is-part.2s
 There is something (Utkuhiksalingmiutut)
- d. *pi-junnaq-tuq*
dummy-able-part.3s
 Someone who can do it (Mittimatalingmiutut)

These examples are proof that it is a very strong requirement of the language that some ROOT occupy this position. The dummy root *pi-* is the only dummy element in the entire grammar of Inuktitut, with the possible exception of default 3s agreement in weather verbs, etc. The fact that light verbs require a dummy element, where no lexical root is present, shows light verbs to be a distinct class from regular verbs. That the dummy element is category neutral shows that it is the ROOT feature which is relevant.

Note also that WH elements and names commonly and naturally incorporate in Inuktitut when

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there is a light verb, as shown in (43). This fact again demonstrates that it is the ROOT nature of the moved element which is critical. The incorporation of WH contrasts with languages such as Mohawk (Baker 1996), where there is no mention of noun incorporation involving WH incorporation.

- (43) a. *sunā-tuq-pin*
what/something-consume-interr2s
What are you eating? (Qamani'tuarmiutut)
- b. Sherri Lee-*ngujaaq-tuq*
Sherrilee-look.like-part3s
She looks like Sherri Lee (Qamani'tuarmiutut)

Finally the omission of causative verbs such as 'break' etc. from the class of NI verbs can now be understood. A causative such as 'break' must necessarily involve a ROOT state. If such a ROOT state were present, then NI would be completely unwarranted. There will normally be only one ROOT per verbal complex (but see below where pied-piping of a second ROOT takes place).

Let us return our attention to the incorporating verbs involving location and direction, as discussed in section 2.4.1 above. Further examples can be seen in (44)

- (44) a. *illu-ga-ne-vunga*
house-poss1s-LocCase-indic.1s
I'm in my house (Labrador)
- b. *illu-ga-kko-vutit*
house-poss1s-throughCase-indic.2s
You're going through my house (Labrador)

Recall that these NI verbs are distinguished from the more general class of NI verbs by the fact that only the former allow the nominal to have inflectional elements, i.e. the nominal does not have to be a bare ROOT. Clearly, what is going on with these verbs is that the EPP ROOT feature is targeting the lexical properties of the oblique case/prepositional element³⁶ before reaching the noun ROOT. When the case/preposition moves to satisfy the ROOT requirement, it also pied-pipes the nominal to which it is attached. Whether or not the nominal has inflection or not is now immaterial within the construction, because the EPP feature is satisfied by the case/preposition to the right of the nominal. We now have an explanation for the difference in behaviour for these verbs. Where the preposition satisfies the EPP, nominal inflection is optional; where the nominal satisfies the EPP, nominal inflection is disallowed.

Consider again the example in (44a) above, which contains the verbal element *-ne-* (*ni* (P) + *i* (v)). Examples such as this constitute evidence that the preposition is not a lexicalized part of the verb. In Inuktitut, case forms beginning with /m/ have a different allomorph beginning with /n/ when they follow either a plural or a possessed nominal, as shown in (45).

³⁶ It is interesting that all the non-structural cases of location and direction allow this. The modalis case (also called comitative or accusative) *-mik* does not, thus supporting the claim in Johns (to appear) that this is a light or little k.

RESTRICTING NOUN INCORPORATION

(45) Labrador Inuktitut

a. *illu-mut*

house-all.

to the house

b. *illu-nut*

house-all.pl.

to the houses

c. *illu-ga-nut*

house-1poss-all.

to my house

If the nominal in example (44a) were not possessed, the form of the NI verb in would be *-me-* (*mi* (P) + *i* (v)), i.e. *illu-me-vunga*. The fact that there is allomorphy with respect to grammatical features of the nominal shows that the correct analysis is [[N+P]+V]. No verb in Inuktitut displays allomorphy based on grammatical features.³⁷

As final evidence that the operation in question is triggered by the need for a ROOT, rather than a nominal, consider instances where an adjective is incorporated.

(46) *qakutu-ruk-tunga*

white-want-intr.part.1s

I want a white one

(Qamani'tuarmitut)

If we assume along with Baker (2003) that nominal and adjectives are distinct categories, then the incorporation of adjectival ROOTs shows that the process of NI in Inuktitut extends beyond the category nominal. The incorporation of adjectives to verbs is unattested in Mohawk.³⁸ In some sense the EPP ROOT analysis is similar to Bok-Bennema and Groos' (1988) adjacency requirement, where the morphology of the verbs require an adjacent element. The difference lies in the fact that the EPP ROOT requirement is a general property of all words in Inuktitut. Every word in Inuktitut, no matter what the category, must begin with a ROOT. Thus there are no prefixes in the language whatsoever (with the exception of the nominals moving up with oblique case as was just shown in 44.). ROOT movement is a fundamental and defining property of the language, as is to be expected from a parameterized EPP property. In many ways, it is reminiscent of the distinctive nature of VSO languages. In the next section, we will see that this EPP property has consequences for the rest of the verbal complex. Again, it will be seen that there are parallels with VSO languages.

³⁷ Dictionaries of postbases tend to give the NI verb entries with the case (P) attached, and so must give multiple forms based on grammatical context in just these cases.

³⁸ In fact, in Mohawk, adjectives themselves are verbs which can incorporate nominals (Baker 1996, 301).

RESTRICTING NOUN INCORPORATION

3.2 ROOT Movement and Inversion

As discussed in the previous section, all Inuktitut words must begin with a ROOT. For example, a non-NI verb complex obligatorily consists of a ROOT, followed by an inflected mood/agreement morpheme. In between these two elements can occur any number of what are referred to as *postbases*, elements of an aspectual, adverbial, and modifying character. NI verbs are only one class within this large group of morphemes which may number up to 400 in one dialect. In a single verbal complex, the number of postbases can range from zero to as many as the speaker cares to, or is able to, add. A somewhat lengthy example is shown (47)

- (47) qai-niar-suri-lauqsima-jjaa-rasugi-junnii-lau-raluar-tunga
come-going.to-think-ever-would-think-participle-never-distant.past-however-part 1s
I never thought I would ever come again (Mittimatalingmiutut)

Postbases afford Inuktitut words their expansive properties, and one of the means of attesting to the level of fluency of a speaker involves their knowledge and use of these elements.

Aside from being morphologically attached, there is one important property regarding the occurrence of these elements in a verbal complex. This is that they demonstrate almost the exact reverse image to the English word order. In interpreting these complex verbs, it often helps to read the morpheme glosses from right to left. The Mirror Principle of Baker (1985) restricts morpheme order such that morphological order reflects the order of syntax, i.e. morphology does not have a set of independent ordering principles. In addition, Cinque (1999) proposes a detailed universal base ordering of verbs and verbal elements, as shown in (48), such that there is a specific hierarchical order (and hence unmarked linear order) for these elements. [Rackowski and Travis 2000, 121]

- (48) A Schema of Cinque (1999): Speech act > Generally > Neg > Already > Still > (at all) > anymore > always > completely > well

The higher order elements are on the left and the elements which are closer to the V are on the right. As we have seen above, in (47), in Inuktitut higher verbal elements are situated to the right and lower ones to the left.

Where languages vary from Cinque's universal ordering, an explanation becomes necessary. One set of languages which vary from (48), and which are currently the topic of much discussion (see articles in Carnie and Guilfoyle 2000 and Carnie, Harley and Dooley 2005) is the Austronesian language family, where V (along with a subset of preverbal elements) is normally the leftmost element in the verbal complex, followed by postverbal verbal elements in inverse order (the numbers correspond to the ordering of Cinque 1999, with 1 being highest).

- (49) Malagasy Schematized Order [Rackowski and Travis 2000, 121]

| | | | | | | | | |
|--------------------|------------------|---------------|----------------|-------------------|------------|-------------|-------------------|---|
| | 2 | 3 | 4 | 5 | (3) | | 10 | 9 |
| Na(dia) Matetika > | Tsy > | Efa > | Mbol > | Tsy > | VERB > | Tsara > | Tanteraka > | |
| <i>Even</i> | <i>generally</i> | <i>Neg</i> | <i>Already</i> | <i>Still</i> | <i>Neg</i> | <i>Well</i> | <i>Completely</i> | |
| | 8 | 7 | 6 | 1 | | | | |
| Foana > | Intsony > | Mihitsy > | Aza > | Ve | | | | |
| <i>Always</i> | <i>Anymore</i> | <i>At-all</i> | <i>though</i> | <i>Speech Act</i> | | | | |

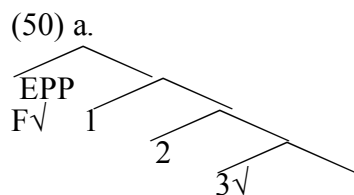
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We note that once past the verb, the verbal elements are in inverse order with the highest one 1 found in the rightmost position.

As discussed in section 3.1, the V/VP initial property of languages such as this has been accounted for by positing an EPP feature (Massam and Smallwood 1997), which triggers the V or VP to move to the highest position. The explanation for the inverse ordering, however, is under much discussion and there are a number of possible means for achieving the desired order. Currently regarding inverse order within VP or DP, there are various remnant type movement proposals: intraposition³⁹ (Rackowski and Travis 2000; Kahnemuyipour and Massam 2002), Roll-up (Cinque 2005), From a different perspective Herd (2003) proposes that Maori inversion results from a process of cyclic prosodic cliticization.

A possibility which remains to be explored is the inverse order could be the result of successive Tucking In (Richards 2001), triggered by the initial EPP movement.⁴⁰ In fact Travis (1992; 2003) proposes a morphological version of Tucking In for Athapaskan verb morphemes. Travis suggests that each morpheme tucks in as it attaches to the left of a verb stem. This produces the order [affix1 + affix2 + [verbal stem]], where affix 1 was attached first. Note that the order of attachment is from the bottom up so that the resulting order is an inverse one.

How might Tucking In explain Inuktitut inversion. First I assume that Inuktitut does not have specifier positions in XP.⁴¹ The second assumption is that Inuktitut has a strong relation⁴² between the selector (head) and selectee (complement). The ROOT moves up to the EPP position at the top of the clause, and Tucks In to the right of the EPP feature. Then the moved element itself probes for its selector through the feature S. The selector then moves up and Tucks In to the right of the first moved element. This continues until all postbases have attracted their selectors, creating an inverse ordering of their merge positions. The process can be schematized as follows, where S is the probing feature.



³⁹ Intraposition involves iterative VP movement through specifiers.

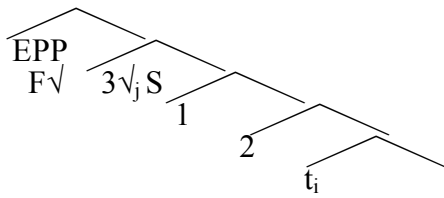
⁴⁰ As Massam (2005b) pointed out, there do not seem to be languages where there is inverse ordering without Pred fronting. Athapaskan, as discussed below, might be a morphological counterexample to this generalization.

⁴¹ Tucking In moves an element to the closest position, even where no position exists. It was proposed by Richards (2000) to account for multiple specifier movement which preserves superiority. As there are no specifiers in the analysis here, it simply moves the element up to tuck in to the right of the attracting feature.

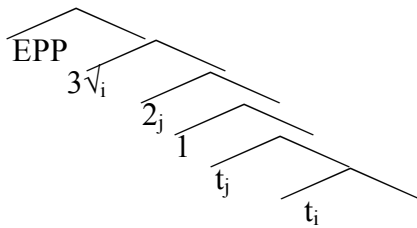
⁴² Thanks to Susan Bejar and Kenji Oda for discussion around this issue.

RESTRICTING NOUN INCORPORATION

b.



c.



Node 1 either does not need to move, as it maintains a local relation with its selectee, or it vacuously Tucks In. No matter the number of nodes, the process will produce the reverse ordering.

Whatever is the correct analysis for inversion of the type, the fact remains that Inuktitut ROOT movement bears a striking similarity to V/VP movement in Austronesian. Both are triggered by EPP features which make the language very different from English. Both create structures which resemble noun-incorporation, but are not – pseudo noun incorporation as Massam (2001) terms it – , and finally, both are implicated in the inverse ordering of verbal elements

4. OTHER LANGUAGES AND ROOT MOVEMENT

Recall that Johns and Massam (1998) claim that NI has a variety of sources. Thus the analysis proposed here does not necessarily extend to all languages with noun incorporation. In this section we shall consider a range of languages and examine whether or not they display any properties similar to those shown in section Inuktitut. We will see that there is evidence that all languages which display obligatory noun incorporation involve verbs of the same class as those in Inuktitut, light verbs.

We have seen that Inuktitut exhibits a type of noun incorporation which we now term ROOT Movement. This occurs when the nature of the verb is insufficient to meet ROOT requirements. In Inuktitut there is an EPP feature of the verb complex requiring a ROOT, and when the construction contains a light verb, the EPP search by-passes the light verb and targets the ROOT of the nominal. If there is a lexical preposition/case above the nominal, then this element can satisfy the EPP requirement. In this section we will examine languages which do not display ROOT Movement and languages which do.

4.1 *Languages without ROOT incorporation*

In this section we will consider the question, as Baker (1996) does for classical noun incorporation: why is that some language do not have ROOT Movement? As argued above, this

RESTRICTING NOUN INCORPORATION

construction must exist in Inuktitut. Here we consider what properties of a language make it unnecessary.

English does not have ROOT Movement. The reasons are many. First, English does not have a ROOT EPP feature. For this reason, we do not expect ROOTS in English to hold a privileged position at a higher position in the clause. Secondly English V's, even when they consist only of light *v*, as in *make a table* do not allow the nominal ROOT as bare complement to the light *v* because of the nature of DPs in English. English DPs need determiners, either overt or null and singular bare nouns do not occur in English. Finally, the fact that English verb agreement lowers to V entails that the verb itself is inflected. In Inuktitut verb inflection is found on the mood markers to the right of the verb complex, not directly on V or *v*.

A more interesting comparison is with Mohawk and other Iroquoian languages, where noun incorporation is a prominent construction. Does, and if so, in which way, noun incorporation differ between the two languages? Mohawk exhibits what we may call classical noun incorporation. In classical noun incorporation, the verbs are not restricted to light verbs, i.e. the incorporating verb may have lexical meaning, plus the nominal may appear either within or outside the verbal complex, as in (51).

(51) a. O-ná-y-a' wa'-t-ká-hri-ht-e' ne o-tsíser-a'
NsO-stone FACT-DUP-NsS-shatter-CAUS-PUNC NE NsO-pane-NSF
The stone broke the window pane.

b. O-ná-y-a' wa'-t-ká-tsíser-á-hri-ht-e'
NsO-stone FACT-DUP-NsS-pane-Ø-shatter-CAUS-PUNC
The stone broke the window pane.

Baker 1996, 292 ex. (23a and b)

Both properties exhibited in (51) are impossible in Inuktitut. As shown above in section 2., it is impossible for the same verb to either contain a nominal or not (compare 51a,b). Equally, that a nominal can be incorporated when the verb is a causative with a ROOT meaning 'shatter' as in (51) is impossible. 'Shatter' is minimally a causative and may also contain a manner component. Neither causative nor manner may be NI verbs in Inuktitut.

As analysed in Baker (1996), NI in Mohawk is a noun licensing operation. Baker proposes a syntactic analysis on NI for polysynthetic languages where the NI is similar to agreement, in that a nominal can be licensed either a) through agreement, or b) by NI. Baker claims (p. 500) that Inuit languages are not polysynthetic under his definition. We might expect then, that the noun licensing parameter, the MVC (or Morphological Visibility Condition), will not drive the movement in Inuktitut. Indeed, as we have seen, it does not.

As Iroquoian noun incorporation is very different from ROOT Movement, where the latter is motivated by the requirement to insert or merge a ROOT material within the verb complex, we expect to see a number of differences. That verbs can have either incorporated or non-incorporated nominals is expected under LICENSING NI, but not under ROOT NI. According to Baker (1996), nominals may be licensed by little *pro*, in which case the nominal may appear outside of the verb complex; or it can be licensed by incorporating within the verb. In contrast ROOT NI is based on a lexical deficiency requiring that a ROOT be provided. As a result we find that a large number of lexical categories satisfy this requirement, N, P (oblique), A, names and

RESTRICTING NOUN INCORPORATION

WH elements, all of which we saw above. There is no report of such elements incorporating in Iroquoian languages. Another expected difference between the two languages is that Mohawk does not seem to have dummy incorporates, while, as we have seen in Inuktitut, dummy elements exist.⁴³ In fact, the nominals themselves that incorporate in Iroquoian are often restricted. Barrie (2004) discusses the fact that nominal roots either require, prohibit or allow incorporation. In Inuktitut there are no nominal roots which must obligatorily be incorporated, except for the dummy element *pi-* (which is ambiguous in category).

Given that the analysis for Inuktitut NI assumes that all NI verbs in Inuktitut are light verbs, light verbs being a universal class, and furthermore that the EPP feature of the language makes ROOT movement obligatory, we are not surprised that all first language acquisition evidence demonstrates that NI in Inuktitut is acquired at a very early stage. Allen 1994, 179 in an acquisition study on Inuktitut found that children "use noun incorporation structures at the youngest ages studied, and use them more frequently than the other structures investigated in this thesis". The youngest age studied was two years, six months old. Similar findings were made in Parkinson (1999)⁴⁴; Fortescue and Lennert Olsen (1992) found that Greenlandic children as young as two years, two months were using noun incorporating verbs productively.

In contrast, in a study of Mohawk acquisition by Mithun (1989), the oldest child (four years, nine months) still had not acquired noun incorporation productively. This is a striking difference and is entirely expected under the present account, where Inuktitut NI root incorporation is a direct result of two essential properties of the grammar, one universal and the other a language specific EPP parameter. In contrast, Mohawk NI is a competing licensing mechanism with the non-incorporated construction.

4.2 Other Languages with ROOT Movement

While neither English nor Iroquoian show properties of ROOT Movement, we will see that other languages do. These languages display obligatory NI, and it will be shown that this is restricted to verbs which are light verbs according to the analysis in section 2. Where NI occurs with non-light verbs, it will be found to be optional. We will consider a number of languages, all of west coast and Siberian origin.

⁴³ In fact Oneida, another Iroquoian language, does have something like dummy incorporates in a small set of cases. Verbs meaning 'to cover up' 'to be in water' 'to fall, drop' 'to pound the surface' 'to be doubled; insulated' 'to wash' and 'to stack, pile' require either a nominal or a dummy noun (see Barrie 2004). A first impression is that these verbs, with the possible exception of 'fall, drop' all involved surface properties. There are nonetheless further differences, as the dummy nouns themselves vary. In any event dummy nouns do not seem to be as general a property as they are in Inuktitut, although even in Inuktitut not every verb can take one. Further research into their distribution is necessary.

⁴⁴ Parkinson tested children's linguistic knowledge through experimental tasks testing processing and interpretation. He found (p. 300) that "by and large, sentences containing NI constructions presented no more difficulty for children than those which did not contain NI."

RESTRICTING NOUN INCORPORATION

4.2.1 *Salish and Wakashan*

Gerds and Hukari (2002) describe what they term denominal verbs in Halkomelem Salish, where the verbs are a) obligatorily attached to a nominal stem and b) are a restricted set. A Halkomelem example is shown in (52).

- (52) ni' tx^w-ka: k^wθə John
aux buy-car det John
John bought a car

The meanings 'buy' is found among the Inuktitut light incorporating verbs, usually combined with the meaning 'get' or 'acquire'. Not surprisingly, the other incorporating verbs mean 'have/get/make/do,' 'ingest/partake'. These verbs are clearly broad in meaning, as expected under the light verb analysis. More importantly, none of their meanings contains root elements of manner or change.

One of the main differences between Inuktitut NI and Halkomelem NI is that Halkomelem nominal roots follow the verb. From this we know that Halkomelem does not have an EPP with a straightforward +√ feature. The Halkomelem verb is V initial (+Pred) and it may be that N's form the ROOT of a complex predicate involving the light verb (see Massam 2005a for an analysis along this lines for Niuean).⁴⁵

Halkomelem and Inuktitut NI have other differences. Halkomelem does not allow stranded modifiers while Inuktitut does, and Halkomelem allows object doubling, where the same nominal appears both inside and outside the verbal construction. It is likely that these differences derive from independent differences in the languages.

That Halkomelem should have a similar set of verbs, where these verbs obligatorily incorporate is predicted by the light verb analysis. In addition, Gerds and Hukari (2002) cite the language Seri, a Hokan language spoken in western Mexico, as containing only a single denominal verb. It means 'have/put on/have as.'

Nuu-chah-nulth (a southern Wakashan language) is also a VSO language family. It too has verbs which require obligatory noun incorporation. The verbs in question mean 'ingest' 'make' 'complete' 'look for' 'give' 'need, lack' 'buy' and 'handle, deal with' (Waldie 2001, 13).⁴⁶ Significantly, there are no NI verbs meaning 'clean', 'tickle', etc., i.e. everyday lexical verbs which have obligatory incorporation. Like Inuktitut, the verbs may attach to modifiers, rather than just to nominals.⁴⁷ It is of interest that Nuu-chah-nulth also has dummy elements, as in (53), taken from Waldie (2001, 16) [I gloss ?u- as 'dummy' as Waldie describes it as "contentless".

⁴⁵ It is interesting to note that Halkomelem is also VSO.

⁴⁶ There is another set of obligatorily incorporating NI verbs in this language which have highly specific meanings, e.g. 'giving a potlatch or ceremony in honor of' but it is likely these can be related to the first set.

⁴⁷ Recent accounts proposed are either morphological/lexical, based on the verbs as suffixes (Waldie 2001) or phonological/syntactic, based on the verbs as suffixes (Wojdak 2003).

RESTRICTING NOUN INCORPORATION

no reason why both types may not coexist in one language. An added factor is that almost all the verbs which obligatorily incorporate have doubles, in that there exist verbs with similar meaning and that do not incorporate, indeed disallow incorporation, as show by comparing (54) above with (56) below

(56) a. q-ə-nu-ʏən kawkaw
Imper-2sg.sub-E-bread-eat-2sg.sub/3sg.obj.Perfective
Eat the bread

b. *q-ə-kawkaw-no-ʏe [Kurebito 2001, 78]

Kurebito describes these double verbs as being in complementary distribution with the ones which must incorporate. It is not possible to make a complete analysis here without further information, but one hypothesis would be that the non-incorporating verbs contain dummy elements. This would explain why only these verbs disallow incorporation.

Thus Chukchi supports our strong empirical prediction that no language will have obligatory NI where verbs are not members of light verb class. In other words, there will be no language where NI is obligatory and the subset of verbs which exhibit NI is random or seemingly arbitrary. The obligatoriness of NI with these verbs derives not primarily from their morphological nature but from the syntactic category. They lack a ROOT.

5. AGAINST GRAMMATICALIZATION

The analysis presented here claims that noun incorporating verbs of the type found in Inuktitut and in other languages (sometimes called denominal verbs or verbal affixes) are intrinsically light verbs only and that their restricted set of meanings and the fact that they obligatorily incorporate are explained from this fact. However other linguists have claimed that verbs of this sort result from grammaticalization processes (Mithun 1997; 1999 and Gerdt and Hukari 2002).

Under a grammaticalization account, the NI verbs would be semantically simple because of semantic bleaching. Similarly, the requirement that they must have a noun attached would be explained by the fact that grammaticalization has turned them into suffixes. The explanation therefore is that they originated as full verbs and due to frequency of use underwent grammaticalization into affixes.

Mithun (1997; 1999) discusses prefix verbs in Salish, such as those we saw above in Halkomelem. She observes that they are very general in meaning. She states that most of these verbs “simply indicate the presence or absence of entities, their coming into being, their appearance on the scene.” (1997, 367). She also notes that many of the English translations show specific meanings, but that these are a result of the nominals to which they are attached, not from the verb itself. This parallels what we saw in section 2.4.3. with the verb *-tuq-* ‘consume’ in Inuktitut, which can variously mean ‘eat’ or ‘drink’ depending on the nominal to the left. Mithun also points out that the Salish class of verbs is similar in meaning to the class of incorporating verbs in Yup’ik Eskimo.⁴⁹ Significantly, Mithun (1997, 368) mentions that the

within the realm of the analysis, so long as these meanings are those of light verbs, which is the case.

⁴⁹What does seem to be different between Inuktitut and Salish languages is that in the latter some

RESTRICTING NOUN INCORPORATION

latter show “a high proportion of markers indicating presence or absence.” This is the antonym-like property discussed above in section 2.3.1. In fact Mithun seems to have noticed a great number of the generalizations which have been the basis of discussion in the above sections, and they are well-founded. However her conclusions are very different from the proposal in this paper. She posits that Yup’ik (and Salish) verbal affixes (NI verbs) are the descendants of independent lexical verbs which have been grammaticalized over time.

Mithun sees problems with this claim however. She ponders the question as to why, if grammaticalization has taken place, these elements have retained more root-like (her term) properties than other affixes in the language. The root-like properties are a) that they are a numerous, even though a closed class, and b) that they have concrete meanings relative to other affixes.⁵⁰ Her answer to this problem is the proposal that the historical path of these incorporating verbs differs from other grammaticalization processes in that each verb did not undergo grammaticalization independently, but instead an entire class of compounded forms underwent grammaticalization, presumably around the same time. Mithun (1999) proposes a grammaticalization history for Inuktitut noun incorporation based on earlier compounding, even though she acknowledges that there is no compounding in the language. Indeed there is neither synchronic nor diachronic evidence for compounding in Inuktitut. Besides the lack of evidence for compounding, another problem with the compounding source for NI verbs is that it is based on the concept of recurring activities as the trigger for the compounding/grammaticalization. The fact that virtually any pragmatically possible noun can appear with an NI verb in Inuktitut does not seem to be in keeping with a process determined by frequency of use.

Michael Fortescue, who is the foremost expert on the historical linguistics of Eskimo-Aleut, explicitly claims that affixes in Eskimo languages do not draw upon lexical stems, but from each other, through morphophonological change and recurrent lexicalization across affixes.⁵¹ Fortescue (1992, 8) states that none of the affixes “can be related to lexical bases, despite the lexical ‘weight’ of many of them.”

The proposal in this paper does not assume that NI verbs were ever anything other than what they are now; therefore a grammaticalization account is ruled out.⁵² The fact that compounds do not exist, nor presumably ever existed, in Inuktitut is of no import to the light verb analysis. Likewise the fact that the class of nominals which are merged with the light verbs are a large, open class, is exactly as expected if the nominals are merged during the derivation to form the lexical root of the vP, where the little *v* may have a number of non-ROOT variations, or flavours, in the terminology of Folli and Harley (2005).

verb-noun combinations are lexicalized.

⁵⁰We might also wonder why the grammaticalization is so uniform, each verb have reached the same degree of semantic bleaching.

⁵¹Sometimes it is difficult to know whether or not lexicalization has taken place, as mentioned earlier.

⁵²If it were to turn out that grammaticalization has in fact occurred in Salish languages, then a weaker version of the claim made in this paper would be that the verbs could not become prefixes until a certain level of bleaching has occurred, i.e. bleach down to little *v*.

RESTRICTING NOUN INCORPORATION

6. CONCLUSION

We have seen that a close look at the subclass of verbs involved in noun incorporation in Inuktitut is very revealing. Previous analyses of this phenomenon in this language have ignored this issue, with the exception of Mithun (1997; 1999). It turns out that the subclass in question all consist of meanings which are associated with light verbs or little *v*, a class of verb known in linguistics at least since Jespersen (1965), and which has been the subject of recent research into verb class (e.g. Harley to appear). In Inuktitut, many of these verbs sometimes also contain operators of negation, quantity, etc., but crucially never contain any ROOT material, such as manner, change of state, etc. As a result, the verbs which trigger noun incorporation seem semantically related to one another, almost as if in sets. This explains the limited semantic range which we find in these verbs. The fact that these verbs are only little *v* provides the basis for an explanation for the fact that a nominal must be attached with the verb complex. The nominal merges in standard complement position but later undergoes ROOT movement, triggered by a general EPP feature of the verbal complex which required that a ROOT move to the highest position in the structure. Light verbs, lacking ROOT material, are unable to satisfy this requirement. As a result, it is clear that noun incorporation in Inuktitut is not an argument licensing process, as in Mohawk (Baker 1996), but instead a general process of fronting a particular type of element, akin to V/VP fronting in VSO languages.

As a result of this analysis, we dispense with previous accounts which arbitrarily attribute a morphological feature to certain verbs. The affixal nature of these verbs results from their inherent universal nature and not from grammaticalization, as claimed in Mithun (1997; 1999). Moreover, we claim that crosslinguistically all instances of obligatory noun incorporation involve ROOT Movement, and there are a number of characteristics of this process which differentiate it from classic noun incorporation, which involves arguments. These include not only the obligatory attachment of some category but the fact that a wider range of elements may fulfill this function, potentially including WH, names, etc. Similarly we expect to find dummy elements with ROOT Movement, but not with classic noun incorporation. So Sapir (1911) was right in rejecting this type of morphology from the label noun incorporation. Nominals may be involved but this is but a side effect of their nature as ROOTS.

The light verb account affords us deeper understanding into the nature of different verb types, and the ways in which languages instantiate these differences.

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