DOCUMENT RESUME

ED 335 885 FL 019 338

AUTHOR Allen, Shanley; Crago, Martha
TITLE Acquisition of Noun Incorporation in Inuktitut.
PUB DATE Apr 89
NOTE 9p.; In: Papers and Reports on Child Language Development, Number 28, p49-56, Aug 1989. For the proceedings, see FL 019 336.
PUB TYPE Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS American Indian Languages; *Child Language; Comparative Analysis; Contrastive Linguistics; Foreign Countries; *Inupiaq; *Language Acquisition; Language Research; Linguistic Theory; *Nouns; *Social Influences; Sociolinguistics; Structural Analysis (Linguistics); Uncommonly Taught Languages
IDENTIFIERS *Mohawk

ABSTRACT

An investigation of the first language acquisition of productive nouns in Inuktitut (Inupiaq) is presented. This study begins with descriptions of noun incorporation, relevant aspects of the structure of Inuktitut, and working criteria of productivity. Acquisition data from Inuktitut and corroborating data from Greenlandic are outlined and contrasted with evidence from Mohawk. Several structural and sociolinguistic explanations for the seemingly early acquisition of noun incorporation in Inuktitut in relation to its acquisition in Mohawk are offered: (1) placement of verbal affixation in relation to the incorporated noun differs significantly in the two languages; (2) the criteria for use of noun incorporation are more restrictive or clearer in Inuktitut; (3) noun incorporation is considered the most usual way to represent the concept in Inuktitut, and is therefore learned earlier; and (4) the Inuktitut living environment is more conducive to language learning than the Mohawk environment. A 12-item bibliography is included. (MSE)

# ACQUISITION OF NOUN INCORPORATION IN INUKTITUT*

Shanley Allen & Martha Crago
McGill University

## 1. Introduction

This paper investigates the first language acquisition of productive noun incorporation in Inuktitut. It begins with descriptions of noun incorporation, relevant aspects of the structure of Inuktitut, and working criteria of productivity in sections 2, 3 and 4. It then presents acquisition data from Inuktitut in section 5 and corroborating data from West Greenlandic in section 6, and contrasts both of these with acquisition data from Mohawk in section 7. Finally, several explanations for the seemingly early acquisition of noun incorporation in Inuktitut are hypothesized in section 8.

## 2. Noun Incorporation

Noun incorporation (henceforth, NI) is a structure which appears in a large variety of genetically and typologically diverse languages. In NI, a particular noun root from the sentence appears inside the verb form rather than as an independent lexical item. The two roots appear to work together as a unit for purposes of agreement marking, case assignment, and other relevant processes. It is standardly assumed in a variety of frameworks that both Inuktitut and Mohawk evidence noun incorporation (Baker 1988; Mithun 1984; Rischel 1971; Sadock 1980, 1986).

(1) a. Palasi-p **niqi**-Ø niri-vaa.
minister-ERGsg meat-ABSsg eat-3sS/3sO.INDIC
'The minister eats/ate the meat.'

b. Palasi-Ø **niqi**-tur-puq.
minister-ABSsg **meat**-eat-3sS.INDIC
'The minister eats/ate meat.'
(Greenlandic; Rischel (1971))

(2) a. Wa?kyvtho? oji:ja?.
wa?-k-yvtho? o-ji:ja-?
AOR-1sS-plant PRE-flower-SUF
'I planted a flower.'

b. Wa?kji?jayvtho?.
wa?-k-ji?ja-yvtho?
AOR-1sS-flower-plant
'I planted a flower.'
(Mohawk; Bonvillain (1974))

In the (a) examples, the structural object noun roots appear as independent lexical items with their own case marking. In the (b) examples, however, the noun roots appear inside the verbal complex, case and other inflections having been dropped. Also to be noted in Inuktitut is that the verb is inflected for both subject and object in the unincorporated form, but only for subject in the incorporated form.

---

* We wish to thank Betsy Annahatak and Lizzie Ninguiruvik for useful discussion of various elements of this paper, and Mark Baker, Michael Fortescue, Marianne Mithun, and Lydia White for helpful comments and discussion on earlier drafts. Thanks also to Betsy for invaluable help in preparing the data for linguistic analysis, and to Johnny Nowra for seemingly endless data transcription. The research upon which this paper is based was funded in part by a Canadian Northern Studies Trust Studentship, an FCAR Fellowship, and a research grant from the Kativik School Board to the first author; and a research grant from the Toronto Sick Children's Hospital Foundation to the second author.

## 3. Grammatical Outline of Inuktitut

Inuktitut (IKT) is a language of the Eskimo-Aleut family, and encompasses several mutually intelligible dialects across Northern Canada. Typologically, it is noted for its highly polysynthetic nature and morpho-phonological complexity. Words typically consist of a noun, verb, or adverbial stem followed by from 0 to 8 or more lexical and grammatical morphemes, then an obligatory inflectional suffix, and finally optional enclitics.

Nominals are obligatorily marked for Case and number, and for person and number of possessor if applicable. Adjectival and other modifiers of the nominal which constitute separate words (i.e. not bound morphemes) are treated as nominals in Inuktitut and take the same person and number inflections as those on the nominal which they modify. Verbs inflect for both subject and objects in absolutive Case, but for neither objects in secondary Case nor incorporated objects. Word order is generally assumed to be basic SOV, though because Inuktitut is a pro-drop language it is relatively rare to encounter a sentence containing all of subject, object, verb, and other modifiers. Within a noun phrase, word order is much more rigid: possessors precede the head noun, and modifiers follow it.

## 4. Productivity

One of the great difficulties in any study of acquisition is determining the point at which a child begins using a morpheme or structure productively: to at least subconsciously recognize a certain morpheme as having a particular function of its own in the word-building processes of a language. We will adopt the criteria for productivity in Inuktitut, following Fortescue & Lennert Olsen (to appear). The first criterion is obviously the most clear and strong, with the second and third following in that order.

(3) CRITERIA OF PRODUCTIVITY

1. The morpheme in question is wrongly attached to its stem in terms of correct rules of phonology or morphology.
2. The morpheme in question appears in the transcript on at least two different stems, and preferably with two stems of phonologically different types so that two allomorphs of the morpheme are required.
3. Alternatively, the stem appears with a different morpheme attached in the same place, elsewhere in the transcript.

In terms of NI, it is most useful to refer to productivity of the verbs which allow incorporation since they are a much more restricted class than the nouns which may incorporate. An incorporating verb (henceforth, IV) will be termed productive, then, if it or the incorporated noun evidence attachment errors (criterion 1), if it appears in the transcript with at least two different nouns incorporated into it (criterion 2), or if the noun which incorporates into a particular verb appears elsewhere in the transcript either independently with nominal inflection or incorporated into another verb (criterion 3).

## 5. Inuktitut NI

This section investigates production data from one child speaker of Inuktitut, and illustrates that NI in Inuktitut is beginning to be acquired productively by at least 2;5. The data cited here are taken from 10 hours of videotaped naturalistic communication between an Inuk boy, Jaaji, and various members of his extended family, in Kangirsuk, Nouveau Québec. Tapings were done at 4-month intervals beginning at age 1;9. The sole language of interaction among family members was Inuktitut. Since no instances of NI were observed at 1;9, no data from that age will be considered.

### 5.2.1 Jaaji at 2;1

Jaaji's NI structures at 2;1 are not overwhelming, but they do exist. However, only one of the IVs fits the criteria of productivity and even this is questionable on the basis of native speaker intuition.

(4) a. Tiituq.
tii-tuq
tea-consume
'(I want) to have some tea.'

b. Sikituurtualuit . . .
sikituuq-tuq-aluk-it
skidoo-ride-EMPH-3pS
'They're riding skidoos . . . .'

The IV *tuq*, 'to use for its intended use', appears with several different incorporated nouns (henceforth, IN) of two phonological types which appears to be clear evidence for its productive use. However, each of these phrases is quite common in everyday speech, particularly that of young children, so it is conceivable that each is treated as an independent lexicalized unit. This hypothesis is strengthened by a mistake of omission shown in (5):

(5) * Umialauluuk?
umiaq-lauq-luk
boat-POL-1dS.IMPER
'Let's go for a boat ride?'

In adult speech the morpheme *tuq* must immediately follow the noun *umiaq*. Thus it seems that Jaaji may not have completely grasped the use of *tuq*, or may only be using it lexically, since he is not using it in all obligatory instances.

Two other IVs are productive under criterion 3: *laq* and *liaq* in (6) and (7):

(6) a. Kamilasiviit?
kamik-laq-si-vit
shoe-take.off-PRES-2sS.INTER
'Are you taking your shoes off?'

b. Amiikka gaani.
kamik-Vkka gang-ani
shoe-1SduABS on.top-LOC
'My shoes are on the top.'

(7) a. Qangattajuuliaq.
qangattajuuq-liaq
airplane-go.to
'We're going to meet the plane.'

b. Qangattujuu!
qangattajuuq
airplane
'Airplane!'

In the (a) examples, the nouns in question appear incorporated into verbs, while in the (b) examples they appear as independent elements with appropriate nominal inflection.

### 5.2.2 Jaaji at 2;5

By 2;5 Jaaji has acquired three productive IVs and a fourth, *tuq*, is still inconclusive. First, *liaq* now meets the first criterion of productivity. It appears correctly with two different incorporating nouns, one shown in (8), and is also a clear victim of overgeneralization as shown in (9):

(8) Kuapalialangvuruu.
kuapak-liaq-langa-vuguk
coop-go.to-FUT-1dS.INDIC
'We'll go to the co-op later.'

(9) * Avunnguliaratta!
av-unnga-liaq-gatta
over.there-motion.to-go.to-1pS.PERF
'We're heading there!'

In (9), *liaq* appears with an adverbial of direction incorporated into it. While adverbs of place often incorporate in Inuktitut, this one is already marked for directional movement by the affix *-unnga* and so its incorporation into *liaq* is redundant and considered incorrect in adult speech.[1]

Two other IVs, *u* and *qaq* are also productive at this age. Both appear with various INs, though neither varies phonologically in a fashion relevant to productivity.

(10) a. Iqaluguluuvit?
iqaluk-ruluk-u-vit
fish-pitiful-be-2sS.INTER
'Are you a pitiful fish?'

b. Marquuluta.
marqur-u-luta[2]
two-be-1pS.IMAPP
'Let's be two of us.'

(11) a. Ataataqanngitutua?
ataata-qaq-nngit-juq-tuaq
father-have-NEG-3sS.PART-only
'He's the only one without a father?'

b. Umiajuaqarqugu.
umiajuaq-qaq-vugut
ship-have-1pS.INDIC
'We (too) have a ship.'

### 5.2.3 Jaaji at 2;9

Jaaji has slightly expanded his repertoire of IVs at 2;9: one by criterion 2, three by criterion 3, and three inconclusive. The most productive is the copula *u* 'be', which appears with various INs and in two allomorphs. Three additional IVs, *taaq*, *tuq*, and *si* are termed productive by criterion 3. Consider the data in (12) and (13):

(12) Taatialu paisikuttugulu.
Taati-aluk paisikuq-**tuq**-ruluk
Taati-big bicycle-**ride**-pitiful
'Big Taati is pitifully riding a bicycle.'

(13) Imaittuturumaviit?
imaittuq-**tuq**-guma-vit
this.kind-**consume**-want-2sS.INTER
'Do you want some of this kind (of food)?'

Here *tuq* appears with two different nouns incorporated into it, demonstrating that it is likely productive, and the following two examples provide corroboration by illustrating each of the INs used with a different IV. In (14) *paisikuq* is incorporated into *taaq*, parallel with (12), and in (15) *imaittuq* is incorporated into *si*, parallel to (13). This comparison also indicates the productivity of the two comparison IVs

(14) Paisikuttaatu.
paisikuq-taaq-juq
bicycle-acquire-3sS.PART
'He got himself a bicycle.'

(15) Una kuukuumik imaittusilaarqanga.
una kuukuu-mik imaittuq-si-laaq-vanga
DEMsg kuukuu-INSTRsg this.kind-buy-FUT-2sS/1sO.INDIC
'Buy me some of that kuukuu, some day.'

---

[1] Note that this observation holds only dialects of Inuktitut spoken on the Ungava coast. On the Hudson coast the sentence in (25) would be considered correct in adult speech. The child in question here does not have any regular contact with a speaker of that dialect.

[2] This verbal inflection is incorrect; it should be lunuk '1dS.IMPER'. However, this mistake does not influence the consideration of the productivity of NI.

## 5.3 Stranding

A more advanced step in acquisition of NI is the production of stranding structures. In stranding, lexical items such as adjectivals, numeral phrases and possessors which modify the noun and are included in the NP in unincorporated structures still exist and carry the same semantic relationships in incorporated structures, even though the noun which they modify has been incorporated into the verb complex and the modifier maintains its position outside the verb complex.

Production of stranding structures requires either the cognitive or structural ability to deal with the discontinuous dependency between the IN and its corresponding modifier, as well as the basic NI structure, and thus they constitute a more advanced step in the acquisition of NI. The child in this study did not produce any examples of stranding, which is not really surprising since it is undoubtedly more complex than NI itself and he was still in the beginning phases of dealing with NI. However we did encounter examples of stranding in observation of slightly older children in a nearby community. For instance, at about 3;0 the child was saying such sentences as in (16) with stranded numerals.

(16) **Marruunik aukulutturumajunga.**
'marruuq-nik aukulut-tuq-ruma-junga
two-SECpl chocolate.bar-eat-want-1sS.PART
'I want to eat two chocolate bars.'

This concludes our look at NI acquisition data from Inuktitut. We will now look at some related data from other polysynthetic languages.

## 6. Greenlandic NI

Acquisition data from West Greeniandic (Fortescue & Lennert Olsen (to appear)), another dialect in the Eskimo-Aleut family, corroborates our findings from Inuktitut concerning NI. In addition, this data shows that basic stranding structures are certainly acquired by age 4;7. Examples from 4;7 and 5;2 are shown in (17) and (18) respectively:

(17) Anaana ilaa uanga napparsimallunga **pingasunik pinikuuvunga.**
anaana ilaa uanga nappar-sima-llunga **pingasut-nik pinik-u-vunga**
mummy right I sick-PAST-1sS.IMAPP **three-SECpl things**-be-1sS.INDIC
'I once got three when I was sick, didn't I, Mummy?'

(18) Taava qimmit toqugunik **allanik inissaqannginnamikkit**, . . . .
taava qimmeq-it toqu-gunik **alla-nik inissaq-qaq-nngit-ramikkit**
so dog-ABSpl die-4pS.IMPERF **other-SECpl place-have-NEG-4pS/3pO.PERF**
'So when dogs die, since they don't have any other place for them . . . .'
(Fortescue & Lennert Olsen (to appear))

In (17) the numeral 'three' refers to the quantity of things which the child got, and thus the two items 'three' and 'things' must be construed in a stranding structure. In (18), the modifier *allanik* 'other' is stranded from the NP, *inissaq* 'place', which it modifies.

## 7. Mohawk NI

Acquisition data from Mohawk, an Iroquoian language, show that NI in Mohawk is not acquired productively until after age 6. Mithun (to appear) presents acquisition data based on cross-sectional study of 5 children learning Mohawk as a first language. The

children, aged 1;9 to 4;9, were each observed and recorded for at least half a day, in casual circumstances at either home or school. Examples of NI first appear in the fourth child, aged 2;10, as shown in (19), and then in the fifth child aged 4;9, as shown in (20):

(19) **ronkwe'áksen**
**r-onkwe't-aks-en**
MASCsgPAT-person-bad-STATIVE
'he is a bad man' (Mithun (to appear: 27))

(20) a. **kanahskwáksen**
**ka-nagskw-aks-en**
NEUTsgAGT-animal-bad-STAT
'it is a bad animal'

b. **iohnó:tes**
**io-hnot-es**
NEUTsgPAT-water.level-deep.STAT
'it is deep' (Mithun (to appear: 39))

However, Mithun (to appear: 39) states regarding all instances of NI in her data that "there is no reason to suspect that [they] created any of the forms [themselves]. All of the combinations [they] used are heard frequently, and in many cases the constituent roots do not occur alone, so the forms were most likely learned as lexical units".

This concludes our overview of relevant data. We now turn to possible explanations of the seemingly early acquisition of NI in Inuktitut with some reference to the contrast with Mohawk.

## 8. Possible Explanations of Differences

Presumably there are some factors in effect, whether structural or sociolinguistic, which make it more difficult for Mohawk children than for Inuit children to produce NI structures. Several possibilities are discussed below.

### 8.1 Verbal Affixation in Relation to N Root

One interesting structural difference to note is the placement of verbal affixation in relation to the incorporated noun. Agreement, tense, reflexive and other affixes *precede* the V in the Mohawk verb complex, while all these affixes and more *follow* the V in the Inuktitut verb complex. This is relevant for two reasons.

First is adjacency between the V and its affixes. Slobin (1985) observes in a cross-linguistic comparison of Japanese, Turkish, Polish and Hungarian that children evidence "preferences to keep grammatical markers of aspect, tense, and person close to the verb, while keeping negation and conditionality peripheral (Slobin 1985: 12)." This he attributes to the fact that tense and person are more inherently part of the meaning of the verb itself, while negation and conditionality have scope over the meaning of an entire clause. It is possible, then, that children might initially resist placing an IN in a position which increases the distance between a verb and its tense and person affixes. Since in Mohawk the IN must intervene in just such a position, most NI structures can be represented in an unincorporated form, and the process of NI tends to indicate a pragmatic effect encompassing the entire clause or sentence, children would presumably rather tend to leave the N unincorporated until later in the acquisition process. In Inuktitut, however, the IN does not block the adjacency of any affixes of person, tense, etc. since they all appear on the other side of the verb and therefore there is no reason why this factor of hierarchy of relevance should affect the acquisition of NI in Inuktitut.

Second, it has been shown that that morphemes at word boundaries are more salient to children than those inside the word. In Mohawk the IN is well-entrenched inside the

verbal complex with various affixes on either side. In Inuktitut, on the other hand, the IN is always at the very beginning of the verbal complex. Thus it would not be surprising for the acquisition of NI to be influenced by this difference in salience of INs.

### 8.2 Criteria for Use of NI - Optional/Obligatory

A second possible explanation is that the criteria for use of NI are more restrictive or more clear in Inuktitut. NI in Inuktitut may be termed "obligatory" or "lexically governed" in that the verb into which the noun incorporates is only allowed to appear with an IN. NI in Mohawk, on the other hand is mostly "optional" or "stylistically governed" in that the verb which permits incorporation of nouns can also appear as an independent lexical item without an IN.

One possible ramification of this derives from Slobin (1985) who states that children have a preference for analytic over synthetic expressions. It is interesting to note here that those examples of NI which do appear in the Mohawk acquisition data are all examples of "obligatory" incorporation: both the adjectival V roots and the noun which is incorporated into it may only appear in incorporating structures. Thus the earliest NI expressions to emerge in Mohawk are those which have no analytic counterpart, and analytic forms are otherwise used in child speech until at least age 6. It is slightly problematic, however, that even when more or less equivalent analytic counterparts exist in Inuktitut they are acquired later than the synthetic NI structures.

A second possibility is that things which are lexically-governed are very clear in terms of which structure must be used. However, things which are stylistically-governed are quite a bit less clear and require more subtle interpretation. Therefore the child might find it easier in Inuktitut than in Mohawk to figure out when NI is to be used.

### 8.3 Degree of "Usualness" of NI in Adult Speech

A third possible reason for the early acquisition of NI in Inuktitut is the degree of "usualness" of NI in adult speech. When two or more structures are available to express basically the same meaning, and there is a feeling among native speakers as to which of the forms is the most usual, we intuitively expect the most usual form to be learned first, all other things being equal.

Mithun (1984) presents the thesis that in most cases of noun incorporation the unincorporated form is the norm and NI takes place for a specific purpose. In this situation a child would be expected to acquire the unincorporated form first, then alter it as necessary according to the pragmatics of the situation at hand. Since Mohawk follows this pattern, it is not surprising to observe that NI is acquired quite late.

Sadock (1986:25), however, notes that in many cases Greenlandic "provides no non-incorporated form of equal or less complexity and idiomaticity than the incorporated form." Thus it may well follow the pattern that in languages where NI is the normal and usual form ". . . it is not the case that 'speakers . . . incorporate for a purpose [Mithun (1984)]', but rather that they REFRAIN from incorporating for a purpose (Sadock (1986:21))".

In a language like Inuktitut where NI is considered the "most usual" way to represent the concept at hand, a child would most likely learn the incorporated form first and produce the unincorporated form only at a later date. In fact, unincorporated forms in Inuktitut only start appearing around age 4.

### 8.4 Degree & Intensity of Child Exposure to Language

The final possibility we will put forth is a more sociological one having to do with the degree and intensity of the child's exposure to the language being learned. If exposure is

limited to a few times a week, short periods daily, or conversing with only one or two conversational partners in that language, acquisition is likely to progress more slowly than in an environment where the language is being used on a daily basis by almost all speakers.

The Mohawk living environment certainly does not present the ideal situation for language learning. Mohawk is a language suffering fairly rapid attrition. It is spoken proficiently by adults of grandparent age, but few children are currently acquiring it as a first language and it is not very prevalent as a language of everyday use. On the other hand, the preferred and by far most common language of interaction in the Inuit settlement we studied is Inuktitut. On the basis of this information it would not be unreasonable to suspect a differential level of exposure to the respective native language in the two societies, leading to differential acquisition in favor of Inuktitut. In fact, it almost seems that the Mohawk situation is an L2 rather than L1 learning situation. While it is unlikely that the acquisition of a structure per se would be radically affected by such a factor, the grasp of a structure used predominantly for semantic purposes might be since less exposure to the language may well decrease the speed with which the child picks up semantic nuances. This would be especially relevant to NI in Mohawk since NI is used in that language for primarily semantic purposes (Mithun (1984)). It is certainly possible, however, that under more empirical testing no effect is evidenced.

## References


Baker, M. 1988. *Incorporation: A theory of grammatical function changing*. Chicago: University of Chicago Press.

Bonvillain, N. 1974. Noun incorporation in Mohawk. In *Papers in linguistics from the 1972 conference of Iroquoian research*. Mercury Series, Ethnology Division Paper No. 10. Ottawa: National Museum of Man.

Crago, M. 1988. *Cultural context in communicative interaction of Inuit children*. Doctoral dissertation, McGill University.

Dorais, L.-J. 1986. *Tukisiniarutiit: an Inuktitut grammar for the Inuit . . . and anyone else interested*. Quebec: Universite de Laval.

Fortescue, M. 1985. Learning to speak Greenlandic: a case study of a two-year-old's morphology in a polysynthetic language. *First Language 5:* 101-114.

Fortescue, M., & L. Lennert Olsen. To appear. *The acquisition of morphology by Greenlandic children*. In D. Slobin (ed.), *The cross-linguistic study of language acquisition, Vol.3*. Hillsdale, N. J.: Lawrence Erlbaum Associates.

Mithun, M. 1984. The evolution of noun incorporation. *Language 60:* 847-893.

Mithun, M. To appear. The acquisition of polysynthesis. *Journal of Child Language*.

Rischel, J. 1971. Some characteristics of noun phrases in West Greenlandic. *Acta Linguistica Hafniensia 12:* 213-245.

Sadock, J.M. 1980. Noun incorporation in Greenlandic. *Language 56:* 300-319.

Sadock, J.M. 1986. Some notes on noun incorporation. *Language 62:* 19-31.

Slobin, D. I. 1985. Introduction: why study acquisition crosslinguistically? In D. I. Slobin (Ed.), *The cross-linguistic study of language acquisition (Vol. 1)*. Hillsdale, N.J.: Lawrence Erlbaum Associates.