1. Introduction

In Inuktitut, a polysynthetic language spoken by the Inuit of arctic Quebec, all verbs are obligatorily inflected according to the target grammar. There is no infinitive form that corresponds to the infinitive found in non-matrix clauses in languages such as English, and the Inuktitut verb inflection encodes crucial argument and illocutionary force information. In spite of this, young children learning Inuktitut produce verbs that lack the obligatory inflection.

In a recent study, Crago and Allen (2001) report that four typically developing Inuit children aged 1;11 - 2;1 learning Inuktitut as a first language do not go through an optional infinitive stage. Inuktitut is a language that permits null subjects, so this finding is consistent with Wexler's (1998) predictions.

In the present study, we analyze the patterning of uninflected verbs in the speech of four typically developing Inuit children between the ages of 2;0 and 3;6 in search of a systematic correlation between lack of verb inflection and discourse-pragmatic, structural, and/or emotional factors. Results show that several factors can affect inflection dropping, and often more than one factor is involved, but no single factor can account for the phenomenon in its entirety.

2. Structure of Inuktitut

Inuktitut is an Eskimo-Aleut language, polysynthetic and suffixing, and has a morphologically ergative case-marking pattern. Inuktitut has basic SOV word order, but nominal arguments are typically omitted in everyday speech (Allen & Schröder, i.p.). Inuktitut has a rich system of both nominal and verbal inflection. The data presented here are taken from the Tarramiut (Hudson Strait) dialect of Inuktitut, spoken by approximately 1500 Inuit in arctic Quebec.

A typical verb in Inuktitut is made up of an obligatory verb root, optionally followed by suffixes that perform a wide variety of functions including modalization, negation, and temporal marking. The verb ends with an obligatory inflection. This structure can be expressed formulaically as $\text{ROOT}_1 + \text{SUFFIXES}_{0,n} + \text{INFLECTION}_n$, based on Woodbury (1981:104).

Inuktitut verb inflections are portmanteau morphemes encoding person,
number, and mood. Four persons (1\textsuperscript{st}, 2\textsuperscript{nd}, 3\textsuperscript{rd} coreferent, 3\textsuperscript{rd} disjoint) and three numbers (singular, dual, plural) are distinguished for intransitive and transitive subjects and transitive objects. There are nine verbal mood paradigms. In main clause verbs (what we are concerned with in this study), mood marks illocutionary force of the utterance (e.g., indicative, imperative, interrogative).

Examples (1) - (4) illustrate a variety of inflected verbs in typical everyday child and caretaker speech. The inflection is the final morpheme of each verb.\textsuperscript{1}

(1) \textit{Atfirituargumangitunga.}
\begin{quote}
\texttt{atfi-li-uq-jau-guma-ngit-juq
\textit{film-PASS-MODAL.SUFFIX-NEG-PAR.1sS}
\textit{I don't want to be filmed.}}
\end{quote}
(Elijah 2;0)\textsuperscript{2}

(2) \textit{Taavuit?}
\begin{quote}
\texttt{taq-a-vit
\textit{be-tired-INT.2sS}
\textit{Are you tired?}}
\end{quote}
(Louisa’s mother)

(3) \textit{Takagu.}
\begin{quote}
\texttt{tak-ju-guk
\textit{see-IMP.2sS.3sO}
\textit{Look at him (lit., You look at him).}}
\end{quote}
(Elijah’s grandmother)

(4) \textit{Kataviqvuqalaqangituq.}
\begin{quote}
\texttt{kataq-vik-u-qajq-langa-ngit-juq
\textit{fall-NZPLACE-VZ.BE-MODAL.SUFFIX-NEAR.FUT-NEG-PAR.3sS}
\textit{Nothing will be able to drop from it.}}
\end{quote}
(Elijah 2;9)

Temporal information is not coded in the Inuktut verb inflection.\textsuperscript{3} An example of temporal encoding can be seen in (4), in which near future is encoded with the temporal suffix -langa.-

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1. The following grammatical abbreviations are used in the English glosses:  
Nominal case: ALL = allative; ERG = ergative; LOC = locative; MOD = modalis.  
Verb mood: IMP = imperative; INT = interrogative; PAR = participial (functionally equivalent to the standard indicative in \textit{Tarramitut}).  
Verbal inflection (e.g. PAR.3sS): 1 = first person; 2 = second person; 3 = third person (disjunct); s = singular; d = dual; p = plural; S = subject; O = object.  
Nominal inflection (e.g. MOD.SG): S = singular; PL = plural.  
Possessed nominal inflection (e.g. ERG.3sSg): 2 = 2\textsuperscript{nd} person possessor; 3 = 3\textsuperscript{rd} possessor; S = singular possessor; sg = singular possessum; pl = plural possessum.  
Suffices: EMPH = emphatic; ENDR = diminutive; NEAR.FUT = near future (same day); NEG = negation; NZ = nominalizer; PASS = passive; PERF = perfect; POL = politeness; PRSP = prospective; TODAY.PAST = same day past; VZ = verbalizer.  
Omitted components: NO.ROOT = no verb root; NO.INFL = no verb inflection  
2. Pseudonyms are used for the names of all Inuit.  

Examples (1) - (4) show that Inuktut verb inflection encodes a range of information crucial to utterance interpretation. Turning to forms that omit this inflection information in the data, there are three types, exemplified in (5) - (7).  
Example (5) illustrates a construction consisting only of a verb root, \textit{taku} ‘see’, without a verb inflection. The uninflected form in (5) can be compared directly with an inflected form of the same root shown in (3) above.

(5) \textit{Taku.}
\begin{quote}
\texttt{taku-Ø
\textit{see-NO.INFL}
\textit{‘(You) Look.’}}
\end{quote}
(Paul’s father)

The utterance in (6) consists of a verb root, \textit{quaq}- ‘discover’, followed by a suffix marking perfect aspect and the negation suffix -ngit-, but no inflection.

(6) \textit{Quajimangasu.}
\begin{quote}
\texttt{quaq-ja-mangit-Ø
\textit{discover-PERF-NEG-NO.INFL}
\textit{‘I don’t know.’}}
\end{quote}
(Elijah 2;9)

Example (7) illustrates a construction that contains neither a verb root (verb root ellipsis in Inuktut is treated in Swift & Allen (to appear)) nor a verb inflection, but consists of verbal suffixes only, the modal suffix -guma- ‘want to’ and negation suffix -ngit-. This can be compared directly with (1), a complete verb form that contains this particular sequence of suffixes.

(7) \textit{Gumangit.}
\begin{quote}
\texttt{Ø-guma-ngit-Ø
\textit{NO.ROOT-MODAL.SUFFIX-NEG-NO.INFL}
\textit{‘I don’t want to.’}}
\end{quote}
(Paul 2;6)

Uninflected verbs are occasionally found in caretaker speech, for example as in (5) above, but are far more frequent in child speech. And even though uninflected verbs lack the person, number and mood information encoded in the inflection, they are typically fully interpretable in context, as we show in §4.

3. Methodology

The data for this study were collected by Allen (1996). The subjects are 4 Inuit children between 2;0 and 3;6 and their caretakers, living in a functionally monolingual Inuit community of approximately 200 in arctic Quebec. Each child was videotaped 4 hours per month for 9 months in naturalistic communication situations. The videotapes were transcribed by native speakers and entered into a database in the \textit{CHAT} format (MacWhinney & Snow 1990). The first, middle, and last sessions were coded for morphology and syntax. Table 1 shows age, total verbal clauses produced and verbal MLU (average
length in morphemes of verbal utterances) for each child at each coded stage.

<table>
<thead>
<tr>
<th>CHILD</th>
<th>AGE (YEARS:MONTHS)</th>
<th>TOTAL VERBAL CLAUSES</th>
<th>VERBAL MLU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elijah</td>
<td>2;0</td>
<td>220</td>
<td>4.13</td>
</tr>
<tr>
<td></td>
<td>2;5</td>
<td>308</td>
<td>5.11</td>
</tr>
<tr>
<td></td>
<td>2;9</td>
<td>321</td>
<td>5.32</td>
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<td></td>
<td>2;10</td>
<td>161</td>
<td>4.29</td>
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<td></td>
<td>3;3</td>
<td>343</td>
<td>4.48</td>
</tr>
<tr>
<td></td>
<td>3;6</td>
<td>121</td>
<td>4.96</td>
</tr>
<tr>
<td>Lizzie</td>
<td>2;6</td>
<td>103</td>
<td>3.89</td>
</tr>
<tr>
<td></td>
<td>2;11</td>
<td>97</td>
<td>4.18</td>
</tr>
<tr>
<td></td>
<td>3;3</td>
<td>225</td>
<td>4.50</td>
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<td>3;6</td>
<td>71</td>
<td>3.28</td>
</tr>
<tr>
<td></td>
<td>3;10</td>
<td>332</td>
<td>3.85</td>
</tr>
<tr>
<td></td>
<td>3;6</td>
<td>282</td>
<td>4.37</td>
</tr>
</tbody>
</table>

The utterances included in the present study are fully intelligible verbal utterances that are complete from the point of view of the speaker’s intonation and not comprised solely of routines (e.g., songs, alphabet). The selected utterances were coded for the presence or absence of verbal inflection and other relevant structural properties, the presence or absence of speaker emotion, and the following features of the discourse context: implicit subject information, the presence or absence of linguistic material, and the illocutionary force of the preceding utterance.

4. Patterns of verbal inflection dropping in Inuktitut

The frequency of both uninflected and inflected verbs (tokens) in child and caretaker speech is given in Chart 1.

![Frequency of Uninflected and Inflected Verbs in Child and Caretaker Inuktitut](chart1)

The percentage of uninflected verbs in child speech overall is just 6%, but it is still much larger than the percentage of uninflected verbs in caretaker speech, only 7 instances. Uninflected verbs are completely absent from the speech of half of the caretakers (Elijah’s grandparents and Lizzie’s parents).

Chart 2 shows the percentage of verbs uninflected in child speech for each of the children at their first, middle, and last taping sessions. In general, the children produce fewer uninflected verbs as the morphological complexity of their speech develops, with the exception of Lizzie.

However, these data also indicate that the percentage of verbs uninflected is not strictly a function of MLU, since Elijah produces the largest percentage of all the children, 24%, in his first stage when his verbal MLU is 4.1, which is higher than both Paul at his first stage, and Louisa at her first and middle stages.

![Percentage of Verbs Uninflected in Child Inuktitut](chart2)

Chart 2 Percentage of verbs uninflected in child Inuktitut

We also found that in many cases a child produced the same verb in both inflected and uninflected form during the same stage of development, so many instances of uninflected verbs could not be attributed to the child’s inability to produce the appropriate inflection, as shown in (8).

(8) a. **Piilaurit.**  
piiq-lauq-git  
remove-POL-IMP.2sS  
‘You get off, please.’

b. **Piil**  
piiq-Ø  
remove-NO.INFL  
‘(You) get off.’  
(Louisa 2;10)

Although uninflected verbs do occur in the child’s input, they are extremely rare, so the input speech does not account for the patterns in child speech. The following sections examine the uninflected forms in terms of discourse pragmatics, structure, and speaker emotion in child and caregiver speech to see if these factors can account for their distribution.
4.1 Discourse-pragmatic factors

Our first hypothesis was that the absence of verb inflection reflected a kind of ellipsis phenomenon that was triggered by certain discourse-pragmatic principles of information recovery, which have also been shown to play a role in nominal argument ellipsis in Inuktitut. In particular, Allen (2000) found that young Inuit children are more likely to represent an argument overtly (as an NP or demonstrative pronoun) if it has one or more associated informativeness features, such as if the argument represents a third person subject and/or a referent that is new to the discourse.

In the present study, we analyze the uninflected verbs with respect to implicit subject information (Chart 3) and the presence or absence of linguistic material in the discourse context (Chart 4). The analysis of other discourse-pragmatic features specific to situational context is left for future research.

Chart 3 shows the frequency of 1\textsuperscript{st}, 2\textsuperscript{nd}, and 3\textsuperscript{rd} person implicit subjects for uninflected verbs in child and caretaker speech. The majority of uninflected verbs in child speech have either 1\textsuperscript{st} or 2\textsuperscript{nd} person implicit subjects, i.e., speech act participants, so the referents are easily recoverable from the discourse context. All of the uninflected verbs in caretaker speech make reference to speech act participants only.

When children also produce uninflected verbs with implicit 3\textsuperscript{rd} person subjects, the referent is typically salient because it is identified by eye-gaze or former linguistic mention. Skarabelas & Allen (2001) show that joint attention is highly predictive of the omission of new arguments in Inuktitut, suggesting that these cases would be interesting to analyze with respect to joint attention.

Chart 4 shows the results of our analysis of the linguistic material in the discourse surrounding the uninflected utterances, indicating whether parts of the uninflected verb form were linguistically present in the discourse preceding the uninflected utterance, and so could be considered 'given' rather than 'new' information. We distinguish four categories of discourse presence of linguistic material, each of which is exemplified below.

![Chart 4 Discourse presence of linguistic material for uninflected verbs](chart.png)

In the first category, a full (inflected) form of the verb is present in the discourse preceding the uninflected form. An example of this is shown above in (8), and another example is given in (9). In this example, Lizzie produces the uninflected form in (b) only after she gets no response from the full form she produces in (a).

(9) a. *Aninnguagumajunga.*
   ani-nguag-guma-junga
   go.out-pretend-MODAL-SUFFIX-PAR.1sS
   'I want to play outside.'  \(\text{(Lizzie, 3;2)}\)

   b. *Anaama aninngua?*
      anaama      ani-nguag-0
      mother     go.out-pretend-NO.INFL
      'Mother, play outside?'  \(\text{(Lizzie, 3;2)}\)

In the second case, either the stem and/or a 'parallel' inflection is present. We use the term 'parallel' inflection to characterize discourse situations in which the child is addressed with an imperative or a question and produces an uninflected verb in response. Examples of this are given in (10), which shows a request/response exchange, and (11), which shows a question/answer exchange.

(10) a. *Pinnguarittiliri pinnguatinnit.*
    pinnguaq-giaqtuq-lik-git
    play-PURPOSIVE-POL-IMP.2sS
    'You go and play with your dolls.'  \(\text{(Lizzie's father)}\)

    b. *Pinnguaq-tinnit*
       toy-ALL.2Spl
b.  Ah! Gumanngi.
   aa  Ø-guma-ngit-Ø
   ah  NO.ROOT-MODAL.SUFFIX-NEG-NO.INFL
   ‘Ah! (I) don’t want to (go and play).’ (Lizzie 2;10)

(11) a.  Qangattajuq-qaquvít?
      qangattajuq-iaq-qqau-vit
      airplane-VZ-go.to-today,past-INT.2aS
      ‘Did you go to the plane today?’ (Elijah’s grandmother)

b.  Auk, qqaunngi.
    auk  Ø-qqaun-ngit-Ø
    no  NO.ROOT-TODAY.PAST-NEG-NO.INFL
    ‘No, (I) didn’t.’ (Elijah 2;0)

In the third case, no portion of the uninflected verb is linguistically present in the preceding discourse. An example of this is shown in (12). In the context of this utterance, Paul’s brother is trying to pour juice into Paul’s cup, and Paul refuses with the uninflected form gumanngi ‘don’t want to’.

(12)  Gumanngi.
      Ø-guma-ngit-Ø
      NO.ROOT-MODAL.SUFFIX-NEG-NO.INFL
      ‘(I) don’t want to (have it).’ (Paul 2;6)

In spite of the lack of preceding linguistic material, utterances such as the one in (12) are typically interpretable in the context of the situation. A detailed analysis of the contextual features that support this kind of linguistically reduced utterance (e.g., presence vs. absence in context) is left for future research.

The fourth case represents unclear cases, that is, utterances that could not be categorized with respect to discourse context because they were preceded by unintelligible speech or occurred after a break in taping.

Results show that for all the children, at least some portion of the linguistic material is present in the discourse for at least half of the uninflected verbs they produce. But the percentage of uninflected verbs for which this is not the case indicates that discourse-pragmatic factors we have investigated here don’t provide a complete explanation.

4.2 Structural contexts

We then looked for a structural explanation for lack of inflection. The stems occurring in uninflected verbs are quite diverse and yield no apparent pattern. Clearer patterns are found in the last overt suffix of the uninflected forms. Chart 5 shows the results of this analysis.

Chart 5 Unflected Verbs Categorized by Overt Final Suffix

The sentential operator category consists of uninflected verbs that end with a pre-inflection sentential operator. These are suffixes that immediately precede the verbal inflection, such as the suffixing suffix -ngit- (as in (13)) and the politeness suffix -laug- (as in (14)). These suffixes can be seen in canonical pre-inflection position in inflected verbs in examples (6a) and (1) above.

(13)  Amuqqaajangmi.
      amuq-qajaq-ngit-Ø
      pull.up-MODAL.SUFFIX-NEG-NO.INFL
      ‘(I am) not able to pull (it) up.’ (Elijah 2;5)

(14)  Arqalau.
      arqa-lauq-Ø
      get.down-POL-NO.INFL
      ‘(You) please get (me) down.’ (Paul 3;3)

The next category consists of uninflected verbs that end with suffixes for which a word-final form exists. These suffixes can occur on both nouns and verbs, and children hear them in word-final position when they occur on nouns in the unmarked absolutive case, so they could potentially misanalyze them. Those suffixes include the emphatic -aluk ‘really, very’ (unatuluk ‘naughty one’), the suffix -nguaq- ‘pretend’ (piipimiuguaq ‘doll’), and the nominalizer -juq ‘that which, one who’. An additional complication is that nominalizer -juq and verbalizer -laug- ‘consume’ are homophonous with the 3rd person singular subject intransitive standard indicative verb inflection. Examples of these suffixes as the final suffix of an uninflected verb are given in (15) through (17).
4.3 Speaker emotion

The final factor we investigated as an influence on the production of uninflected verbs is the role of speaker emotion. Emotional circumstances bear investigation in this language in particular because they have been identified as an important factor in the very rare cases of uninflected verb forms in the related languages of West Greenlandic (Sadock, 2001), and Siberian Yupik Eskimo (de Reuse 1994:34-39). De Reuse reports that the truncated verb forms are considered “inelegant” by most native speakers.

Speaker emotion plays a role in inflection dropping in Inuktut as well. Elijah’s first taping session, during which he is extremely fussy, has a number of examples of this. Examples (20) through (23) are all taken from this session.

Example (25) is another illustration of Elijah’s frustration. He produces the full form in (a) seven times before he produces the uninflected form in (b).
5. Conclusion

In sum, we have examined a series of factors in search of systematic
correlations between utterance structure and context and lack of verb inflection.
The Inuktitut data present us with a complex set of facts and reveal discourse-
pragmatic, structural, and emotive factors conducive to verbal inflection
dropping. Lack of facility with verb inflection does not generally appear to
motivate inflection dropping in child Inuktitut, however. Single factors account
for subsets of the data, but no single factor accounts for the phenomenon in its
 entirety, and inflection dropping appears to be most frequent when multiple
factors converge.

The morphosyntactic issues illustrated above are specific to Inuktitut, and
other languages pose their own problems of morphosyntactic complexity. The
discourse-pragmatic features and the role of speaker emotion may prove to be
more general across languages. We conclude by suggesting that the factors we
have discussed may contribute to the production of uninflected verbs in child
speech crosslinguistically.

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