Early passive acquisition in Inuktitut*

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ABSTRACT

Passive structures are typically assumed to be one of the later acquired constructions in child language. English-speaking children have been shown to produce and comprehend their first simple passive structures productively by about age four and to master more complex structures by about age nine. Recent crosslinguistic data have shown that this pattern may not hold across languages of varying structures. This paper presents data from four Inuit children aged 2;0 to 3;6 that shows relatively early acquisition of both simple and complex forms of the passive. Within this age range children are productively producing truncated, full, action and experiential passives. Some possible reasons for this precociousness are explored including adult input and language structure.

INTRODUCTION

The passive structure has been central in studies of both linguistic theory and language acquisition over the past few decades. In linguistic theory it has been crucial in establishing the existence of underlying subject and object

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and in developing the notion of constituent movement. In language acquisition it has played a major part in developing our understanding of how children comprehend language and handle linguistic structure.

A wide variety of studies in these two areas have led to the claim that the passive is a complex structure for which the basic pattern, using an action verb and without an overt agent, is acquired fairly late (by about 4;0 in English, 5;0 in German, and 8;0 in Hebrew (Berman, 1985; de Villiers & de Villiers, 1985; Mills, 1985)). Evidence from elicited production tasks, imitation tasks, and comprehension tasks with English-speaking children shows productive use of passives and above chance performance on assessment tasks by about 4;0 (e.g. Lovell & Dixon, 1965; Turner & Rommetveit, 1968; Bever, 1970; Baidie, 1975). The more complex patterns, including full passive and passive with experiencer and perception verbs, are not held to be in place until well into the school-aged years (e.g. Horgan, 1978; Maratsos, Fox, Becker & Chalkey, 1983; Sudhalter & Braine, 1985; Gordon & Chafez, 1990).

This late acquisition of passive structures forms the backbone of support for a maturation hypothesis of language acquisition (Borer & Wexler, 1987) which claims that certain principles of the grammar mature in the same fashion as certain biological functions. It is claimed on the basis of evidence from English and Hebrew that the principle governing the process of A-chain formation underlying NP-movement, a crucial element of the passive structure, matures at around age 4;0.

However, the data outlined above have not gone unchallenged in the literature. The methodology of some studies has been questioned (Pinkier, Lebeaux & Frost, 1987; Weinberg, 1987), and much earlier correct interpretation and production of the passive has been documented in diary data from English-speaking children (Bowerman, 1990; Budwig, 1990) and in experiments with German-speaking children (Eisenbeis, 1993). In addition, at least three studies have shown that English-speaking children's production of the passive increases when frequency of passive input is increased over normal levels as part of experimental conditions (Baker & Nelson, 1984; Crain, Thornton & Murasugi, 1987; Pinkier, Lebeaux & Frost, 1987).

Finally, recent crosslinguistic work in non-Indo-European languages such as Sesotho, Zulu and K'iche' Mayan has shown that verbal passives appear productively in spontaneous speech in these languages at least as early as 2;8 (Suzman, 1985; Pye & Quixtan Pox, 1988; Demuth, 1989, 1990). As a result of these conflicting data, the validity of maturation as a mechanism of grammatical development has been thrown into question.

This article discusses the acquisition of passive structures in Inuktitut, the language of the Inuit of arctic Canada. Naturalistic spontaneous speech data from four Inuit children aged 2;0 to 3;6 show that passive structures are used productively in Inuktitut as early as 2;0, in both basic and complex patterns. After outlining the structure of the passive in Inuktitut and describing the research methodology used, this article presents data from the Inuit subjects in some detail and compares them briefly with related data from West Greenlandic subjects. Implications of the Inuktitut data for theories of language acquisition including the maturation hypothesis are discussed, and some potential reasons for the precociousness of the passive in Inuktitut are offered.

Structure of the passive in Inuktitut

Two types of passive are normally differentiated in the literature: verbal and adjectival. Verbal passives typically represent an ongoing action and imply agency, while adjectival passives typically represent the resulting state of that action and do not include expressions of agency. In English these two forms are similar and often indistinguishable on the surface, as seen in (1).

(1) The food was eaten.

However, various tests can distinguish between them: verbal but not adjectival passives typically permit agentive phrases, as in (2), and adjectival but not verbal passives typically permit negation of the passive participle, as in (3).

(2) The food was eaten by Mary.

(3) The food was uneaten (*by Mary).

The structural derivation of the two forms is also typically seen as different: verbal passives are formed syntactically through movement of elements between D-structure and S-structure, while adjectival passives are formed lexically through simple affixation in the lexicon. Discussions concerning the structures of these two types of passive in English, including tests to distinguish between them, are found in Wasow (1977), Horgan (1978), Levin & Rappaport (1986), and Gordon & Chafez (1990), among others.

Inuktitut exhibits both these types of passive. However, they are not similar in form, and both are derived syntactically. They are discussed in turn below.

Verbal passive. Inuktitut is a member of the Eskimo–Aleut language family. It exhibits a high degree of polysynthesis including prolific verbal and nominal inflections, an ergative case marking system, SOXV word order, and ellipsis of both subject and object. A typical active transitive sentence is shown in (4), and the related verbal passive construction in (5).

[1] Some controversy exists among Eskimologists as to whether many structures in Inuktitut, including the passive, are essentially verbal or nominal, and – connected but independent – whether structures in Inuktitut are formed lexically or syntactically. The former
Passive Acquisition in Inuktitut

'Habitual' passive. The verbal passive in Inuktitut can be used to refer either to a certain event in time or to the normal procedure for doing something. This latter is labelled here the 'habitual' passive, as illustrated in (6).

(6) Saimurutauunguvuq.
   saimuj-jau-suuj-u-vuuj
   shake.hands-PASS-HAB-be.IND.3SS
   'He/she is normally shaken hands with (by people).'

The agent is not a specific referent, but rather a class of referents which would normally engage in the process described, and it is typically implicit. This passive has the same essential structure as the verbal passive.

Adjectival passive equivalent. The semantic equivalent of the English adjectival passive is formed for a subset of verbs in Inuktitut (typically unaccusatives) with the perfective affix -sim-, as in (7).

(7a) Igalaaj salummasarsimalujuk (*Jaanimut).
    igalaaj-Ø salummasaq-sima-juq
    window-ABS.SG clean-PERF-PAR.3SS
    'The window is cleaned (*by Johnny').

(7b) Itisivik tatisimalujuk (*Jaanimut).
    itisivik-Ø tata-sima-juq
    box-ABS.SG fill-PERF-PAR.3SS
    'The box is filled (*by Johnny).'

Following standard Government-Binding analyses concerning word formation in polysynthetic languages, it is assumed here that the adjectival passive is formed syntactically via head movement rather than lexically as in English (Baker, 1988). Since the adjectival passive is not relevant to the discussion of the verbal passive due to its different form, it will not be discussed further here.

Method

Subjects

The subjects of this study are four Inuit children: Alec, Juupi, Mae and Suusi. These children were 2;6, 2;0, 2;6, and 2;10 respectively at the outset of the study. Juupi was the youngest child living in an extended family of grandparents, birthmother, and siblings ranging through adulthood. His primary caretaker was his grandmother, who did not work outside the home. Alec, Mae and Suusi all lived in nuclear families in which both parents worked outside the home and the children were cared for during the day by
various members of their extended families. Alec and Suusi were both the youngest of their siblings, while Mae was the oldest.

Location
Data discussed in this article were collected in a small Inuit settlement approximately 1,100 miles north of Montreal on the west coast of Ungava Bay in arctic Quebec, Canada. Approximately 97% of its permanent population of 200 are Inuit; an additional dozen non-Inuit teachers, nurses and construction workers are present in the community on a seasonal basis. The everyday language of home, business and social activities in the community is Inuktut. All Inuit are native and fluent speakers of Inuktut (Tarramit dialect), though most Inuit between the ages of about eight and 40 are bilingual to some degree in English and/or French.

Procedure
Approximately four hours of spontaneous speech data from each child were collected every month for nine months. Data collected each month were amassed over no more than a one-week period, with a typical taping session lasting between one-half hour and two hours. During the taping sessions the subjects were engaged in normal daily activities which typically included free play, watching television (without sound), eating, and conversation with caregivers and peers. Subjects were videotaped with a hand-held videocamera equipped with an external microphone. Approximately one-half of the data (two hours per month comprising individual sections of at least 15 minutes each in length) were selected for transcription on the basis of relative frequency of utterances of the subject and potential ease of transcription of the tape. Sections of tape with excessive background noise, or excessive crying, silence or repetitiveness of utterances, were omitted. The selected data were subsequently transcribed by native speakers of Inuktut and entered into a computer database following the CHAT transcription conventions from the CHILDES project (MacWhinney & Snow, 1990). Data analysed for this article include the first, middle and last sessions for each child, though some examples are taken from other transcribed sessions. Transcriptions of the data used herein were checked by the first author in consultation with native speakers of Inuktut, and then coded for morphology and various aspects of syntax including passives.

Data analysis was conducted using the CLAN programs (MacWhinney & Snow, 1990). Only utterances which were fully intelligible and complete from the point of view of the child's intonation were included in the analyses. Utterances otherwise meeting these criteria but comprising exact self-repetitions, exact imitations of another speaker, exclamations ('hey', 'wow') or routines (counting, alphabet, songs) were excluded.

Mean length of utterance by morpheme (MLUm) figures were calculated for both total utterances (all utterances in the data set) and verbal utterances (only those utterances containing a verbal element). Calculation of MLU by morphemes is not as straightforward for highly inflecting or polysynthetic languages as it is for more isolating languages (Fortescue, 1985) since it is less clear what constitutes a unique morpheme for the child in these languages. First, given that a word in a highly inflecting language is likely to consist of several morphemes, it is not clear whether the child views this word as one morpheme, or as a number of unique morphemes. In the latter case, it is not clear whether the child has correctly identified each individual morpheme or whether the child views a group of morphemes together as one morpheme. In many cases morphophonological processes also obscure morpheme boundaries, making identification of individual morphemes even more difficult for the child. A second problem is that many of the morphemes considered distinct by linguists are in fact no longer clearly separable from a synchronic standpoint. Portmanteau morphemes such as nominal (e.g. -mut ALL.PL) and verbal (e.g. -tagit IND.ISS.2.SG) inflections are a case in point in Inuktut. Though they are arguably decomposable into separate morphemes (e.g. Kalmar, 1979), there is no evidence that either adults or children systematically and consistently deal separately with each of the component parts of inflectional units. A third difficulty for Inuktut derives from the diachronic process of lexicalization. A large proportion of nominals in inuktut are formed from several morphemes (e.g. supau-ruti-vini-qauti (blow-item.used.for-former-item.containing) 'ashtray' [= that which contains the remains of that which is used to blow]). In many cases these items have in fact become lexicalized units in the language and are no longer considered to be formed productively with each use, though usually the component parts are transparent and recoverable. For purposes of calculating MLU, items considered morphemes by adult speakers of Inuktut were considered unique morphemes for the subjects unless there was clear evidence that a certain group of morphemes was used in a formulaic or unanalysed sense (e.g. qati-ngu-ppat (how.many-be-CND.3.SG) 'what time is it'). In addition, each portmanteau inflection and each lexicalized unit was treated as only one morpheme. However, it still may be the case that the MLU for Inuit subjects presented here is high in relation to coevals speaking other languages, and therefore caution should be used in utilizing MLU as a criterion for crosslinguistic comparison.

While calculation of a verbal MLU is not typical in the literature, it seemed well-motivated in the context of this research since passives occur only in verbal utterances. Instances of passive occurrence were calculated on the basis of percentage per verbal clause rather than per verbal utterance since more than one verbal clause, and thus more than one possible environment for a passive structure, may occur in a given utterance. Details of the data set are given in Table 1.
Note that all Inuktitut data discussed here derived from spontaneous speech. While passive acquisition in English has commonly been assessed by means of comprehension tasks with minimal support from production data due to the rarity of passive structures in child English (Brown, 1973; Horgan, 1978), the high frequency of passives in child Inuktitut allows detailed analysis from production data alone.

### RESULTS

This section presents acquisition data concerning the verbal passive in Inuktitut. The section begins with a discussion of the age and frequency of use of passive structures in Inuktitut. The forms that these passive structures take are then examined in detail in order both to demonstrate their productivity and to show developmental patterns of some of the more complex forms of passive structure.

### Age and frequency of use

Figures concerning age and frequency of use of passive in the data are summarized in Table 2. It is clear from Table 2 that Inuit children use passives at a very early age with relatively high frequency. These figures can be compared crosslinguistically, on both per hour and per verbal utterance bases, with figures presented in the literature.

#### Passives per hour.

Table 3 summarizes data on use of passives per hour in several languages.

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**Table 1. The Inuktitut data**

<table>
<thead>
<tr>
<th>Subject and age</th>
<th>Total utterances</th>
<th>Verbal utterances</th>
<th>No. of verbal clauses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hours of data</td>
<td>No. of utterances</td>
<td>MLU</td>
</tr>
<tr>
<td>A 2:6</td>
<td>1'93</td>
<td>310</td>
<td>2'51</td>
</tr>
<tr>
<td>A 2:11</td>
<td>0'95</td>
<td>320</td>
<td>2'91</td>
</tr>
<tr>
<td>A 3:1</td>
<td>2'30</td>
<td>460</td>
<td>3'19</td>
</tr>
<tr>
<td>J 2:0</td>
<td>2'05</td>
<td>805</td>
<td>2'51</td>
</tr>
<tr>
<td>J 2:5</td>
<td>1'87</td>
<td>621</td>
<td>3'36</td>
</tr>
<tr>
<td>J 3:9</td>
<td>1'95</td>
<td>721</td>
<td>3'39</td>
</tr>
<tr>
<td>M 2:6</td>
<td>2'05</td>
<td>654</td>
<td>2'81</td>
</tr>
<tr>
<td>M 3:10</td>
<td>2'03</td>
<td>653</td>
<td>3'24</td>
</tr>
<tr>
<td>M 3:3</td>
<td>1'00</td>
<td>248</td>
<td>3'39</td>
</tr>
<tr>
<td>S 2:10</td>
<td>202</td>
<td>288</td>
<td>2'00</td>
</tr>
<tr>
<td>S 3:1</td>
<td>2'36</td>
<td>643</td>
<td>2'89</td>
</tr>
<tr>
<td>S 3:6</td>
<td>2'35</td>
<td>632</td>
<td>2'90</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>23'28</strong></td>
<td><strong>6105</strong></td>
<td><strong>2483</strong></td>
</tr>
</tbody>
</table>

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*Figures in this table reflect all and only utterances containing passive structures which are complete and fully intelligible, and are not exact imitations, exclamations, routines, or self-repetitions for emphasis or comprehension. Utterances which otherwise meet these criteria but are identical to a previous utterance in the same taping session are also excluded, following Demuth (1990). Including non-consecutive identical utterances in the figures would require the addition to Table 2 of the following numbers of passives: A 2:6-1; J 2:0-8; J 3:5-4; J 3:9-5; M 3:3-1.*

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**Table 2. Summary of passive data from Inuktitut**

<table>
<thead>
<tr>
<th>Subject and age</th>
<th>No. of passives</th>
<th>No. of passives per hour</th>
<th>Percentage of passives per verbal clause</th>
</tr>
</thead>
<tbody>
<tr>
<td>A 2:6</td>
<td>3</td>
<td>1'55</td>
<td>3'00</td>
</tr>
<tr>
<td>A 2:11</td>
<td>2</td>
<td>2'11</td>
<td>2'00</td>
</tr>
<tr>
<td>A 3:1</td>
<td>6</td>
<td>2'61</td>
<td>2'57</td>
</tr>
<tr>
<td>J 2:0</td>
<td>7</td>
<td>3'04</td>
<td>3'18</td>
</tr>
<tr>
<td>J 2:5</td>
<td>13</td>
<td>6'05</td>
<td>4'32</td>
</tr>
<tr>
<td>J 3:9</td>
<td>16</td>
<td>8'21</td>
<td>4'98</td>
</tr>
<tr>
<td>M 2:6</td>
<td>0</td>
<td>0'00</td>
<td>0'00</td>
</tr>
<tr>
<td>M 3:10</td>
<td>1</td>
<td>0'41</td>
<td>0'29</td>
</tr>
<tr>
<td>M 3:3</td>
<td>8</td>
<td>8'00</td>
<td>6'01</td>
</tr>
<tr>
<td>S 2:10</td>
<td>3</td>
<td>1'49</td>
<td>4'33</td>
</tr>
<tr>
<td>S 3:1</td>
<td>2</td>
<td>0'84</td>
<td>0'60</td>
</tr>
<tr>
<td>S 3:6</td>
<td>5</td>
<td>2'13</td>
<td>1'77</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>66</strong></td>
<td><strong>2'84</strong></td>
<td><strong>2'55</strong></td>
</tr>
</tbody>
</table>

**Table 3. Age and frequency of use of passives per hour crosslinguistically**

<table>
<thead>
<tr>
<th>Language</th>
<th>Age</th>
<th>Hours of data</th>
<th>No. of passives</th>
<th>No. of passives per hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>1:5-5:1</td>
<td>293</td>
<td>116</td>
<td>0'4</td>
</tr>
<tr>
<td>K'iche</td>
<td>2:1-3:10</td>
<td>60</td>
<td>186</td>
<td>3'0</td>
</tr>
<tr>
<td>Sesotho (Demuth, 1990)</td>
<td>2:1-4:1</td>
<td>84</td>
<td>139</td>
<td>1'7</td>
</tr>
<tr>
<td>Inuktitut (Demuth, 1990)</td>
<td>2:0-3:6</td>
<td>23</td>
<td>66</td>
<td>2'8</td>
</tr>
</tbody>
</table>

*Data are from Adam, Eve and Sarah (Brown, 1973), and Allison (Bloom, 1973).*

The age of the Inuit subjects in Table 3 ranges between 2:0 and 3:6 - well below the 4:0 acquisition level cited for English - yet 66 passives are evidenced. If passive production is broken down by age in English (data from Pinker et al. 1987) and Inuktitut, only 12 of the passives in English occur in the 113 hours of tape taken before age 3:1 (Demuth, 1990: 70 - calculation based on Brown, 1973), whereas in 133 hours of tape in Inuktitut before age 3:1 there are 45 passives. In addition, Inuit children use passives at least as frequently on a per hour basis as do children learning other non-Indo-European languages in which passive acquisition has been reported so far.
TABLE 4. Frequency of use of passives per verbal clause in Sesotho and Inuktitut, by age

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Sesotho - no. (% of passives)</th>
<th>Inuktitut - no. (% of passives)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:0–2:10</td>
<td>17 (94)</td>
<td>23 (29)</td>
</tr>
<tr>
<td>2:1–3:12</td>
<td>60 (9% )</td>
<td>24 (21 )</td>
</tr>
<tr>
<td>3:2–3:6</td>
<td>62 (20)</td>
<td>19 (30)</td>
</tr>
<tr>
<td>3:7–4:1</td>
<td>4 (20)</td>
<td>3 (20)</td>
</tr>
</tbody>
</table>

Adapted from Demuth, 1989. Sesotho figures are for passives per verbal utterance (utterance containing a verb) rather than per verbal clause. However, it is unlikely that the difference between these two is large enough to affect significantly the calculations for comparative purposes.

TABLE 5. Frequency of use of passives per verbal clause in Inuktitut, by verbal MLU

<table>
<thead>
<tr>
<th>Verbal MLU</th>
<th>No. of verbal clauses</th>
<th>No. (%) of passives</th>
</tr>
</thead>
<tbody>
<tr>
<td>2:25–2:90</td>
<td>506</td>
<td>8 (1.6)</td>
</tr>
<tr>
<td>3:00–4:74</td>
<td>1328</td>
<td>21 (1.6)</td>
</tr>
<tr>
<td>4:75–5:40</td>
<td>750</td>
<td>37 (4.9)</td>
</tr>
</tbody>
</table>

Passives per verbal clause. Although figures for passives per hour are easier to calculate and more commonly reported in the literature, figures for passives per verbal clause are more revealing since they factor out any effect of difference in verbosity both across children and across languages. Cross-linguistic data for passives per verbal clause are only available for Sesotho. These are compared with data from Inuktitut in Table 4. Figures show slightly higher percentage use of the passive in each age range for Inuktitut-speaking children as compared to Sesotho-speaking children.

Grouping by verbal MLU reveals an increase in frequency in use of the passive in Inuktitut as shown in Table 5, though the data are too sparse to claim a developmental trend.

Summary of age and frequency of use. The trend to relatively frequent and early usage of passive structures in Inuktitut is clearly indicated in these data. Inuktitut-speaking children use passives at least as frequently on a per hour basis as do children learning other non-Indo-European languages reported in the literature, and more frequently than children learning English, at similar ages. In addition, Inuktitut-speaking children use passives slightly more frequently on a per verbal clause basis than do Sesotho-speaking children at similar ages.

It has been established in this section that structures which look like adult passive structures do in fact exist in early child Inuktitut. The following sections proceed to establish that these structures are productive for the children, and to examine the actual form that they take.

Basic passive

The literature on English passive acquisition consistently reports that short passives (without agentive phrases) are typically acquired earlier than full passives (with agentive phrases), and that passives with action verbs are normally acquired earlier than passives with experiential verbs (e.g. Horgan, 1978; Maratsos, Fox, Becker & Chalkley, 1985; Sudhalter & Braine, 1985; Gordon & Chafetz, 1990). Information on language universals also shows short passives of action verbs to be the most basic, while more complex forms include passives with agentive phrases, passives of experiential verbs, passives of intransitive verbs, passives with non-patient subjects, and passives of internally complex transitive verb phrases (Keenan, 1985). For these reasons, the short passive of an action verb with a patient subject is taken to be the most basic form of passive. Indeed, the majority of passives in the Inuktitut data are of this basic form. The surface subject is often missing, probably due to the pervasiveness of argument ellipsis in Inuktitut.

Typical examples are shown in (8) (a complete list of verb roots used with passive morphology is given in Table 8; a full data set is available from the first author).

(8a) Ilai tuttualuit ajjaujuit.
    ilai tutu-ak-it ni-jau-juq-it
    right caribou-EMPH-ABS.PL get-PASS-NOM-ABS.PL
    'The caribou are being gotten, right?'

(b) Tuqutalangasivungaa!
    tuqut-jau-langa-si-vungaa
die-PASS-FUT-PRES-IND.1SS
    'I'm going to be killed!'

However, the data do not consist solely of these basic passives. The following sections show that the passives evidenced in these data are productive, and that they occur in more complex forms, some of which illustrate developmental trends in the present data sample.

Productivity

In studies which focus solely on production data, it is always possible that a form attributed to a child is a memorized and reproduced form rather than a productively analysed form. In light of the large sample of data available in this study, it is unlikely that all the forms evidenced could have been memorized. However, several samples from the data of obvious productivity add credence to this intuition.

Innovative forms. Perhaps the strongest type of evidence concerning productivity is use of the passive with clearly innovative forms. Three examples of this type were found in the data and are discussed below.
In (9), Juupi says *taartaulirtunga* ‘something is in my way’, when in fact there is nothing in his way.

(9) Taartaulirtunga
   taqjau-liq-junga
darken-PASS-PRES-PAR.1SS
   ‘Something is in my way.’  (Juupi 2;6)

In this situation he is trying to watch television, but the screen is blank because the plug has been pulled out. The verb root *taaq*- means ‘darken’ or ‘put in shadow’, so it seems here that Juupi is trying to say something like ‘it is being darkened on me’ or ‘I got darkened on’, presumably by the television. However, it is clear that this is not the adult way to express what he is trying to say.

Example (10) shows a grammatical error on Juupi’s part. The passive morpheme in Inuktitut can only be affixed to verb stems. In (10a), however, Juupi is trying to passivize a noun without having first incorporated it into a verb. He has also switched the ordering between the causative and passive morphemes. The utterance in (10b) illustrates his target.

(10a) *Anaanaa, kiinaujartaatiniarqunga...uumunga...atjilirutimut.
   anaanaa kiinaujaq-jau-tit-niaq-vunga u-munga atjiliruti-mut
   mother money-PASS-CAUS-FUT-IND.1SS this.one-ALL.SG camera-
   ALL.SG
   target: ‘Mom, I’ll be given some money...by this one...by
   the camera.’  (Juupi 2;9)

(10b) ...kiinaujartaatitauniarqunga...
   kiinaujaq-taaj-tit-niaq-vunga
   money-acquire-CAUS-PASS-FUT-IND.1SS
   ‘...I’ll be given some money...’

Example (11) illustrates an overgeneralization by Mae. She is standing in her socks on a bed frame with a polished wooden base which is quite slippery. She has just slipped on the base such that her legs slide apart when she utters (11).

(11) *Siaqritauvuq.
   siaq-riC-jau-vuq
   slide-PASS-IND.3SS
   ‘It was slidden.’  (Mae 3;3)

This utterance, however, is ungrammatical. The passive is inappropriate here since there is no agent of the action of sliding; rather the sliding occurred unintentionally. It is possible that Mae has not yet completely understood that verbal passive utterances in Inuktitut require at least an implicit agent.

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**Passive acquisition in Inuktitut**

*Self-correction.* Self-correction is a second piece of evidence illustrating productivity; one clear example of this type appears in the data. In (12a), Suusi omits the passive morpheme in a word, rendering it meaningless, then corrects herself by inserting it in the next utterance, as in (12b).

(12a) *Aanniasiursigavi.
   anniasi-uq-si-gavit
   check.up-PASS-PRES-CND.2SS
   target: ‘You are going to be checked medically.’

(12b) Aanniasiurtausigavit.
   anniasi-uq-jau-si-gavit
   check.up-PASS-PRES-CND.2SS
   ‘You are going to be checked medically.’  (Suusi 3;4)

*Control of scope effects.* Additional evidence for productivity was demonstrated if subjects controlled scope effects of the passive in interaction with other verb-internal morphemes such as the causative and desiderative. Were the passive to appear closest to the verb root, that verb would be passivized. However, were the passive to appear further from the verb root than the causative or desiderative, the latter would be passivized rather than the verb root. Since either morpheme order is equally likely on any transitive verb root given the appropriate context, adult-like ordering shows the child’s knowledge of the relationship between semantics and morpheme ordering.

There is no clear evidence in any one session of the data sample to support the idea that children have such knowledge at this stage. However, at least one subject shows control of scope effects with the passive in interaction with the causative across two consecutive sessions. In (13a) Juupi has produced a word with the causative morpheme outside the passive, whereas in (13b) he places the passive morpheme outside the causative.

(13a) Nasanga piuquutillulugu.
   nasaq-nqa piuq-jau-tit-lugu
   hat-ABS.3SS remove-PASS-CAUS-ICM.XX.3SS
   ‘(Someone/thing) caused his hat to be removed.’  (Juupi 2;0)

(13b) Allanguurtutiqjunga.
   allanguaq-tit-jau-junga
   draw-CAUS-PASS-PAR.1SS
   ‘Someone is letting me draw a picture.’ [= I am being made to draw a picture]  (Juupi 2;1)

*Passive-active alternation.* Final evidence for productivity of the passive comes from the alternation between passive and active utterances referring to the same event. Three examples of this occur in the data sample. In the example in (14) Juupi is discussing with his mother the fact of his being
videotaped. He first asserts that he will be taped (14a), then changes his mind and decides he does not want to be taped because he is going to eat (14b). Finally in (14c) he changes his mind again and tells the researcher to tape him because she will be leaving the camp tomorrow and so there isn’t much time left for him to be taped. In the first two utterances Juupi uses the passive, but switches to the active in (14c).

(14a) Anaana atjiliurtuagama.
anaana atjiliq-jau-si-gama
mother film-PASS-PRES-CSV.18S
'Mom, I’m going to be filmed.'

(b) Auka atjiliurtuagamangii.
auka atjiliq-jau-guma-ngit
no film-PASS-want-NEG
'No, (I) don’t want to be filmed.'

(c) Aullalaaravit atjiliuluunanga.
aullaq-laag-gavit atjiliq-lauq-ngna
leave-FUT-CSV.28S film-POL-IMP.28S.180
'Film me since you will leave.' (Juupi 2;5)

Such examples suggest that the children have mastery of the alternation between passive and active, and can use the appropriate voice to meet their needs.

Incorrect allomorph. One usual piece of evidence for productivity of a form which was not found in the Inuktitut data is an error in choosing the appropriate allomorph of a given morpheme. Since the inappropriate allomorph would never be heard in adult input, its use may be taken as evidence for productivity on the part of the child. In Inuktitut, the passive morpheme has two allomorphs: -jau- after vowels and -tau- after consonants, thus providing a ripe situation for such errors to occur. The lack of examples of this type can be explained to some degree by a change under way in the phonological rules of (at least) the Tarramuit dialect of Inuktitut. In many instances in which the -tau- allomorph would be required by older speakers, the -jau- allomorph is being used consistently by younger speakers. Thus child utterances which would have formerly been considered as using an inappropriate allomorph must now be considered appropriate since the children are using forms they hear in the input. Such is the case in (15):

(15) Kalijauqumajunnga.
kaliq-jau-guma-junga
pull-PASS-want-PAR.18S
'I want to be pulled.' (Juupi 2;9)

Since the verb root kaliq- ends in a consonant, the allomorph -tau- would be used by older speakers. However, use of the allomorph -jau- with this verb

PASSIVE ACQUISITION IN INUKTITUT

root is increasingly common among younger adult speakers, so cannot be deemed inappropriate in this case.

Full passive
As noted above, full passive structures with agentive phrases are typically quite rare in English child language, and almost completely absent before at least 5;0 (Brown, 1973; Horgan, 1978; though see Bowerman, 1990). This has been cited as evidence that English-speaking children are in fact using adjectival passives at the earlier stages since short passives do not force a verbal passive interpretation in the same way that full passives do. However, in the data from Inuktitut, some 18% of the passives used (12/66) are produced with agentive phrases, as shown in Table 6.

**Table 6. Summary of use of full passives in Inuktitut**

<table>
<thead>
<tr>
<th>Subject and age</th>
<th>No. of passives</th>
<th>No. of full passives</th>
<th>Percentage of full passives per passive</th>
</tr>
</thead>
<tbody>
<tr>
<td>A 2;6</td>
<td>3</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>A 2;11</td>
<td>2</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>A 2;3</td>
<td>6</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>J 2;0</td>
<td>7</td>
<td>2</td>
<td>28.6%</td>
</tr>
<tr>
<td>J 2;5</td>
<td>13</td>
<td>2</td>
<td>15.4%</td>
</tr>
<tr>
<td>J 2;9</td>
<td>16</td>
<td>5</td>
<td>31.3%</td>
</tr>
<tr>
<td>M 2;6</td>
<td>0</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>M 2;10</td>
<td>1</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>M 2;13</td>
<td>8</td>
<td>1</td>
<td>12.5%</td>
</tr>
<tr>
<td>S 2;10</td>
<td>3</td>
<td>1</td>
<td>33.3%</td>
</tr>
<tr>
<td>S 3;2</td>
<td>2</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>S 3;6</td>
<td>5</td>
<td>1</td>
<td>20.0%</td>
</tr>
<tr>
<td>Total</td>
<td>66</td>
<td>18</td>
<td>18.2%</td>
</tr>
</tbody>
</table>

As evident in this table, the majority of full passives are produced by Juupi. This is not surprising since Juupi’s final two sessions are both in the highest MLU group and show the most advanced grammatical development across the four subjects. Table 6 shows a slight tendency towards increase in use of full passive with age, while Table 7 shows a similar tendency according to increase in verbal MLU.

**Table 7. Frequency of use of full passives in Inuktitut, by verbal MLU**

<table>
<thead>
<tr>
<th>MLU</th>
<th>375–399</th>
<th>400–474</th>
<th>475–549</th>
<th>Input*</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of passives</td>
<td>8</td>
<td>21</td>
<td>37</td>
<td>208</td>
</tr>
<tr>
<td>No. (%) of full passives</td>
<td>1 (14.3)</td>
<td>3 (14.3)</td>
<td>8 (21.6)</td>
<td>35 (16.8)</td>
</tr>
</tbody>
</table>

* Adult input data are taken from seven sessions with Juupi (2;0, 2;1, 2;2, 2;3, 2;6, 2;7, 2;9), and seven sessions with Mue (2;6, 2;7, 2;8, 2;9, 2;10, 3;4, 3;5).
The sentences in (16a) represent examples of use of the full passive.

(16a) Isumunga aiajagavit.
    itsu-munga ai-jau-gavit
    that. one-ALL.SG get-PASS-CSV.2SS
    'You will be brought by that one.' (Suusi 2;10)

(b) Piirtualangama aluunut.
    piq-jau-langa-gama alu-unut
    remove-PASS-FUT-CSV.1SS white.person.BW-ALL.SG
    'I will be removed by the white person.' (Juupi 2;0)

Passive with experiential verbal stem

Several comprehension and elicited production studies show that English-speaking children tend to learn passive structures using action verbs such as hit or kick (performance above chance by about 5;0) earlier than those using experiential verbs such as see and understand (performance above chance by about 9;0), and that children aged 3;0 to 11;0 perform significantly better on action than on experiential passive sentences (Maratsos, Fox, Becker & Chalkley, 1985; Sudhalter & Braine, 1985; Gordon & Chafetz, 1990). Although it is certainly clear that most of the verbs used in the passive by the Inuktitut-speaking subjects tend more towards the 'action' range of the scale, there are several examples in the data of passive sentences with experiential verbs that make it clear that these are not foreign to the children. Table 8 gives a list of the verb roots passivized by each of the subjects.

Some examples of the passive with experiential verbs are given in (17):

(17a) TakuJauqaqanmut.
    tako-jau-qau-null
    see-PASS-PAST-CSV.3SS
    'Was it because he was seen?' (Alec 2;6)

(b) Napuunirattuuvunivuutit Taamisamut.
    Napa-u-niraq-jau-juq-viniq-u-jutit Taamisa-mut
    Napa-be-say-PASS-NOM-former-be-PAR.2SS Taamisa-ALL.SG
    'You were called "Napa" by Taamisa.' (Juupi 2;5)

As shown in Table 8, the verb root atjiliq- 'film' is passivized by all the children, and tako- 'see' is passivized by both Alec and Juupi. Other experiential verb roots are passivized by only one child during the sessions analysed. No clear tendency is evident within the data analysed for the use of passives with experiential verbs to increase proportionally with age or MLU relative to use of passives with action verbs.

\[
\begin{array}{|c|c|c|c|}
\hline
\text{Subject and age} & \text{No. of verbal clauses} & \text{Verb roots used with short passives} & \text{Verb roots used with full passives} \\
\hline
A 2;6 & 103 & atjiliq- 'photograph' & taku- 'see' \\
 & & itiq- 'enter' & \\
A 2;11 & 97 & at- 'get' & qu- 'want' \\
A 3;3 & 225 & alla- 'draw' & apaq- 'bump into' \\
 & & qu- 'want' & tuqt- 'die' (3) \\
J 2;0 & 220 & atjiliq- 'photograph' (2) & piq- 'remove' \\
 & & hir- 'bite' & taku- 'see' \\
 & & qu- 'want' & \\
J 2;5 & 308 & atjiliq- 'photograph' (7) & iti- 'put away' \\
 & & -liq- 'make' & taku- 'see' \\
 & & -nirraq- 'say' & \\
 & & qutiq- 'shoot' & \\
J 2;9 & 321 & igil- 'throw away' & ati- 'use' \\
 & & kath- 'pull' & katik- 'pull' \\
 & & kiinaaq- 'money' & kunik- 'kiss' \\
 & & matuq- 'open' & qu- 'want' \\
 & & namungaa- 'to where' & taq- 'fetch' \\
 & & paa- 'beat up' (4) & \\
 & & piq- 'remove' & \\
 & & tikit- 'arrive' & \\
M 2;10 & 343 & tigui- 'take' & tuqt- 'kill' \\
M 3;3 & 121 & atjiliq- 'photograph' & \\
 & & qu- 'want' & \\
 & & *niapr-C- 'slide' & \\
 & & tiguk- 'take' & \\
 & & *ti- CAUS (3) & \\
S 2;10 & 31 & ti- CAUS (2) & ai- 'get' \\
S 3;2 & 332 & kiit- 'bite' & \\
S 3;6 & 282 & qait- 'come' & pattio- 'spank' \\
 & & bare root & \\
 & & atjiliq- 'photograph' & \\
 & & tuqt- 'kill' (2) \\
\hline
\end{array}
\]

* Numbers in parentheses indicate the number of times during this session that the child produced an utterance with the verb indicated. Exact imitations, self-repetitions, and non-consecutive identical utterances are not included in these counts.

'Habitual' passive

The 'habitual' passive, as discussed earlier, is another more complex form of the passive in that it refers to an habitual process rather than to a specific event in time, and in that the agent is typically implicit and has no
individuated referent. There are only two examples of this ‘habitual’ passive in the data analysed here, one in the final session of Suusi (18a) and the other in the final session of Juupi (18b).

(18a) Una piilaikkallugu, jaasuq.
   u-na piq-laukat-lugu jau-suuaq
   this.one-ABS.SG remove-for.a.while-ICM.XS.3SG PASS-HAB
   ‘Taking this one off for a while is how it’s done.’
   (Suusi 3; 6)

(b) Mauna matuurtuusuunguuvuq.
   ma-una matuig-jau-suuaq-u-vuq
   here-VIA open-PASS-HAB-be-IND.3SG
   ‘Here is where it [mini-organ] gets opened.’
   (Juupi 2; 9)

Passive with non-patient subject

The majority of passives in the data sample reflect passivization of the patient argument of a verbal stem such that this patient moves to subject position at S-structure. However, there are two examples in the data of passivization of a goal or benefactive argument of a ditransitive verb—a structure considered more complex in terms of language universals. Note that both examples come from the final two sessions of Juupi, the most advanced data in the sample in terms of MLU and grammatical development. The data are given in (19).

(19a) Nasaliuutuungitunga.
   nassaq-liuq-jau-ngit-junga
   hat-make-PASS-NEG-PAR.1SG
   ‘I am not being made a hat for.’
   (Juupi 2; 5)

(b) Nilattaukaannaitqat anaanina kinationuti?
   nilaat-taq-jau-kinaatq-vita anaanina kina-kkut-nut
   ice-fetch-PASS-PAST-IND.1SG mother who-group-ALL.PL
   ‘Who were we fetched ice by, mother?’
   (Juupi 2; 9)

In both (19a) and (19b), the patient argument has been incorporated into the verb, and thus the benefactive argument is passivized.

Passive of internally complex transitive verb phrases

On several occasions in the data, internally complex transitive verb phrases are passivized. This type of structure is deemed to be a more advanced form of passive use, as shown in evidence from language universals (Keenan, 1985). Examples illustrate use of passivization with noun incorporation structures (19), morphological causative structures (20), and reportative structures (17b).

Noun incorporation. Noun incorporation structures are internally complex in that the patient argument has been incorporated into the verb. Thus it is only possible for passivization of the benefactive argument to take place, as in the examples in (19) above.

Morphological causative. Morphological causative structures are internally complex in that the causative morpheme is affixed to the verb root. The subjects of this study use two causative morphemes predominantly: -tit- ‘make’ and -qu- ‘tell X to, want X to’. While some uses of the causative and passive morphemes together may constitute one unanalysed unit for the children at this stage (Allen, 1994, in press), the utterances in (20) seem to be productive.

(20a) Nasangi piirtauittilugu.
   nasaq-ngu piq-jau-tit-lugu
   hat-ABS.3SG remove-PASS-CAUS-ICM.XS.3SG
   ‘His hat was caused to be removed.’
   (Juupi 2; 0)

(b) Imauluquatsungat.
   imaakt-it-luqq-qu-jau-tsungat
   like-this-be-do-want-PASS-C7M.1SG
   ‘I was asked to do this.’
   (Alec 2; 10)

(c) Itumut qaijuagavit.
   Ituqu-mut qai-qu-jau-gavit
   Ituqu-ALL.SG come-want-PASS-CV.2SG
   ‘You were called for by Ittuq.’
   (Juupi 2; 9)

Reportatives. Reportative structures are internally complex in that the verb of saying is incorporated into the verbal stem. One example of passivization of a verb of saying is found in the data. In this example, the suffixal verb root takes a clausal complement and includes two instances of noun incorporation, as shown in (17b) above.

Summary of acquisition data

The above data all converge to support the conclusion that passive structures cover a wide range of options at a young age among Inuit children. Examples of the passive occur as early as 2; 0; they appear in both short and full forms, and with both action and experiential verb roots. In addition, children in the highest MLU group in the data sample use ‘habitual’ passives, passivize non-patient arguments, and passivize internally complex transitive verb phrases. Thus, they clearly do not conform to the standard conclusions about passive acquisition in Indo-European languages, but rather group with recent findings reported for Sesotho, K’iche’, and Zulu as cited earlier.

Comparison with data from West Greenlandic

West Greenlandic, spoken by some 60,000 inhabitants of the west of Greenland, is also a member of the Eskimo–Aleut language family and closely related to Inuktitut. One might expect, due to this family relationship and similarity in structure, that the age and frequency of passive usage would be quite similar in Inuktitut and West Greenlandic. However, an analysis of
spontaneous speech samples from six West Greenlandic speaking children aged 2;2 to 5;2 revealed not a single example of the -jau- passive structure in the entire data set (Fortescue, 1985; Fortescue & Lennert Olsen, 1992). One potential explanation for this difference is that the -jau- passive, -saa- in West Greenlandic, serves as a stative passive in this language, so the time of acquisition may be affected by this semantic difference. The dynamic passive role equivalent to that of -jau- in Inuktitut is served by the morpheme -negar- (Fortescue, 1984). However, there are also no examples of -negar- in the West Greenlandic data. This may be explained by an aspect of change in the patterns of representing the passive in West Greenlandic, as discussed by Fortescue & Lennert Olsen (1992: 156). The 'pseudo-passive' construction, formed with the causative morpheme -tit- used reflexively, is increasingly replacing the traditional passive constructions, especially among young West Greenlandic speakers. This pseudo-passive construction does in fact appear in at least one utterance at 3;1 in the West Greenlandic data, but its use across the subjects available is no discussed in any detail in the literature. Thus it seems that a structure equivalent to the Inuktitut passive may be acquired at a similar stage in West Greenlandic, but there is not enough evidence reported to be certain.

DISCUSSION

Many attempts have been made in the literature to explain the timing of acquisition of passive structures. This section considers several hypotheses in the light of the Inuktitut data, including the effects of maturation, caregiver input and language structure.

Maturation hypothesis

One of the most often cited hypotheses to explain the timing of passive acquisition is the maturation hypothesis discussed in Borer & Wexler (1987). This hypothesis attempts to explain ordering in acquisition by claiming that certain grammatical principles mature in the same fashion as biological functions such as secondary sexual characteristics. According to this theory, particular linguistic structures which do not occur at an early stage will suddenly fall into place once the relevant linguistic principle matures within the child, and neither learning nor triggering needs to be invoked in the explanation of ordering of acquisition. The key example supporting this theory is the apparently late maturation of the principle governing A-chain formation implicated in the NP-movement used in passives. Data from English and Hebrew showing late acquisition of the verbal passive serve well to support the maturation hypothesis, although various questions have been raised as noted in the introduction to this article. Recent data from non Indo-European languages, however, show relatively early acquisition of the verbal passive and thus do not provide support for this theory.

PASSIVE ACQUISITION IN INUKTITUT

The early production of verbal passives in Inuktitut discussed in this article also casts considerable doubt on the validity of the maturation hypothesis as formulated by Borer & Wexler (1987). It is most unlikely that the principle governing A-chain formation matures at age 4;0 if Inuit children seem to have no difficulty producing structures requiring A-chain formation as early as age 2;10. The variability in age of passive acquisition crosslinguistically suggests that if acquisition of the passive is determined by maturation of the principle governing A-chain formation, this principle must either mature at different ages for speakers of different languages, or mature at an early age across all children but only become available for use at different times as determined by idiosyncrasies of the language in question. The former option is clearly untenable biologically, while the latter removes the need for positing maturation in the first place since it would essentially mean that the principle governing A-chain formation is present virtually from the beginning of the acquisition process. The relevance of maturation to language acquisition, then, cannot be based on an argument requiring late acquisition of verbal passives, since this does not hold crosslinguistically. This argument has been articulated in greater detail in Demuth (1989) and in Allen & Crago (1993).

In place of a maturation hypothesis, many researchers subscribe to a position more consistent with a continuity hypothesis (e.g. Pinker, 1984) in which all grammatical principles are available to the child from birth and remain constant throughout development, or with a more functionalist hypothesis (e.g. Slobin, 1985, 1992) in which grammatical principles are neither innate nor matured. The timing of the acquisition of various structures including the verbal passive, then, is influenced by language-specific factors. In Sesotho, for example, early acquisition of verbal passive co-occurs with greater predominancy of the passive than in English, in both the adult language and adult input to children, due to a particularly wide range of passivizable objects in Sesotho (both accusative and dative) and to the topic orientation of Sesotho subjects (Demuth, 1990). Some possibilities for similar language-specific influences for early passive acquisition in Inuktitut include the effect of adult input and properties of the language, which will be discussed below.

Caregiver input

As in Sesotho (Demuth, 1990), passive structures are relatively frequent in adult caregiver input in Inuktitut. This contrasts with English. A summary of input data from two studies concerning English and the present study concerning Inuktitut is given in Table 9. Inuktitut figures are probably on the low side in terms of expressing general input patterns since, especially in the sessions for Mae, most of the interaction is with peers rather than with
Table 9. Summary of caregiver use of passives per hour crosslinguistically

<table>
<thead>
<tr>
<th>Language</th>
<th>Hours of data</th>
<th>No. of passives</th>
<th>No. of full passives</th>
<th>No. of passives per hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>English* (Gordon &amp; Chafetz, 1990)</td>
<td>293</td>
<td>313</td>
<td>4</td>
<td>1:1</td>
</tr>
<tr>
<td>English (Maratsos, 1985)</td>
<td>375</td>
<td>101</td>
<td>1</td>
<td>2:7</td>
</tr>
<tr>
<td>Inuktitut</td>
<td>267</td>
<td>268</td>
<td>35</td>
<td>7:8</td>
</tr>
</tbody>
</table>

* Data are from adult caregivers interacting with Adam, Eve and Sarah (Brown, 1973).

Adult caregivers and thus there are relatively few adult caregiver input utterances per hour. Note also that the figures for English include both adjectival and verbal passives, while the figures for Inuktitut include -jaus-passives only.

The Inuit adult caregivers, then, use passives, at even the most conservative estimate, at least 2:8 times more frequently per hour than do English-speaking adult caregivers in these studies. In addition, numbers for full passive use are far higher in Inuktitut input than in English. Higher frequency of passive use in input in Inuktitut, then, co-occurs with higher frequency and earlier acquisition of the passive in Inuit children. While it is not necessarily true that this represents a causal link (Brown, 1973; Demuth, 1992), it is likely that passive figures are high for both Inuit children and Inuit adult caregivers as the common result of some other phenomenon.

Language structure

Several aspects of the structure of Inuktitut could be affecting the early acquisition of the passive, and its frequent use across both child and adult language. These include an avoidance of two-argument verbal inflections, the pervasiveness of head movement, and the ergative properties of the language and the pervasiveness of NP-movement. The following sections present some of these.

Avoidance of two-argument inflection. One possible reason that both adults and children use the passive so frequently is because it offers an avoidance strategy in terms of the complex inflectional system of Inuktitut. In this system, information concerning verbal modality, person and number is conflated, yielding a distinct form for each combinatory possibility in the majority of cases (the contribution of each type of information to the form of the inflection can be traced historically but is no longer consistently separable). Two-argument verbal inflexion must agree with both subject and object, which, given four persons and three numbers, yields in the vicinity of 900 possible choices of inflexion across the nine possible verbal modalities. Potential one-argument verbal inflexions number only about 100 since the lack of object agreement substantially decreases the number of combinatorial possibilities. Passivization of a transitive sentence, then, decreases the number of possible inflections to choose from by a factor of nine since passives take only one-argument verbal inflexions while standard transitive sentences take two-argument inflexions. It is evident in both spontaneous speech and language consultation situations that even Inuit adults in this dialect area tend to avoid two-argument inflexions as much as possible by either passivizing or antipassivizing the sentence. Thus, the child may be following the example of his or her elders.

Pervasiveness of head movement. Another potential influencing factor lies in the word-building strategies of Inuktitut. Since Inuktitut is a highly polysynthetic language, it uses (according to current Government-Binding analyses) the syntactic process of head movement, required for the formation of the past participle used in passives in both Inuktitut and English, in a large number of other structures including causative, desiderative, antipassive, noun incorporation, verb incorporation, and verbal inflection (Baker, 1988; Bok-Bennema, 1991; Bittner, 1994). Note here that there are no alternative analytic ways in Inuktitut of producing an utterance of the same meaning for at least causative, desiderative, verbal inflexion, verb incorporation, and often noun incorporation. Also, the information conveyed by the verbal inflexion in Inuktitut is essential due to pervasive ellipsis of arguments, and to the fact that verbal inflexions in Inuktitut carry information about verbal modality in addition to person and number. Structures involving head movement are already being used correctly, at least in simple forms, by children at this age in Inuktitut, as argued in Allen & Crago (1989) and Allen (1994, in press).

English, an isolating language, does not use the process of head movement in word-building other than for verbal inflexion, which begins appearing after 2:0 (MLU 2:0 to 2:5) (Brown, 1973; Radford, 1990). In terms of sentence-building, it is used in INFL to COMP movement for raising of auxiliaries and modals in questions, which begins appearing later at about 3:5 (Klima & Bellugi, 1966), and in passive structures as noted above. Thus, the ability to produce head movement structures seems to begin at a relatively similar stage, though it seems to take longer to be used productively in the range of situations required. Note here that neither of the former uses of head movement is essential to English. Verbal inflexion is relatively impoverished in English, and the same meaning can be gained from the context through use of (obligatory) NP arguments and adverbials. Raising of auxiliaries and modals in questions also serves little purpose; the same semantic effect can be achieved through adjustment of intonation. Perhaps Inuit children can produce these seemingly syntactically and morphologically complex structures at such a young age, then, because they are essential for expressing a wide range of basic concepts in Inuktitut since no simpler alternative mechanisms to express the same semantic concept are available.
Pervasiveness of NP-movement. A final possible reason that both adults and children use the passive so frequently derives from the ergative nature of Inuktitut. Many current analyses of ergativity within the Government-Binding framework (e.g. Bok-Bennema, 1991; Johns, 1992; Bittner, 1994) posit that the ergative case assignment system is forced by the fact that the verb is defective and is unable to assign case to its object, and at least one analysis involves NP-movement of the object to subject position as a mechanism for case assignment (Bittner, 1994). In a transitive structure under this analysis, then, and assuming a VP-internal subject (e.g. Koopman & Sportiche, 1991), the object must move to subject position (= NP, INFL) to get case while the subject remains in its base-generated position as subject of the VP and gets assigned (genitive) case by a special mechanism. If this analysis is true, the NP-movement found in passives is a very commonplace and essential phenomenon within the structure of Inuktitut. All arguments base-generated in object position, whether in transitive, passive, or unaccusative constructions, must raise to subject position to get case.

This is drastically different from English, an accusative language, in which such movement is rare, being restricted to passives, unaccusatives, and raising constructions. The only situation in which NP-movement is frequent is raising the subject from its VP-internal base-generated position. However, evidence of children acquiring subject-raising is linked to acquisition of inflection and disappearance of null subjects which both come into play between 2;0 and 3;0 (Pierce, 1992), later than in languages like Inuktitut in which verbal inflection is more complex and predominant.

Summary
In this section several hypotheses concerning the early acquisition of verbal passives by Inuktitut-speaking children have been addressed. Data argue against a maturation hypothesis depending on late maturation of the verbal passive, and for a hypothesis that takes into account the unique structural aspects of Inuktitut.

The issues of language structure identified in this section clearly reflect the importance of crosslinguistic acquisition research. It is not enough to assume that a certain structure will be acquired in one language at a given time based on facts for another language, or that constructions which are semantically similar but syntactically or morphologically different will be acquired at the same time across languages (Slobin, 1982). One must take into account both structural factors, such as the relative pervasiveness or complexity of a structure in a given language, and functional factors, such as the role a particular structure plays in the information it conveys. These arguments are well presented and documented in a rapidly expanding literature focusing on crosslinguistic acquisition (e.g. Slobin, 1985, 1992; Hoekstra & Schwartz, 1994; Levy, 1994).

CONCLUSION
Data have been presented that show relatively early acquisition of both simple and complex passive structures by Inuit children. Consistent with data from other non-Indo-European languages, the Inuktitut data show productive use of a wide range of passives as early as 2;0. The early production of verbal passives casts considerable doubt on the validity of the maturation hypothesis as put forward in Borger & Wexler (1987). Rather, it supports an alternative view in which the timing of acquisition is determined by language-specific factors, structural or functional. Some possible reasons for early passive acquisition in Inuktitut include relatively high frequency of passive structures in adult input and certain characteristics of Inuktitut language structure including prior verbal inflections, commonality of head movement as a word-building strategy, and commonality of NP-movement as a result of an ergative case system.

REFERENCES


