THE ACQUISITION OF PASSIVE MORPHOLOGY IN INUKTITUT

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Level: Shanley E. M. Allen, Doctoral

ABSTRACT

The paper presents evidence concerning early acquisition of passive morphology in Inuktitut, the
language of the Inuit in northern Canada. Data from three Inuit children learning Inuktitut as their first
language show that the passive is used in both basic and complex patterns as early as 2 years of age.
Possible reasons for this seeming precociousness include polysynthetic language structure and frequency
of passives in adult input.

Key Words: Inuktitut, language acquisition, passive, northern Quebec.

INTRODUCTION

Linguistic literature has typically described the passive structure as a complex formation acquired
relatively late by children learning their mother tongue, as evidenced in studies of English and
German first language acquisition. English-speaking children are able to comprehend and produce simple
passive structures by age 4, and master the more complicated structures by about age 9 (Bever 1970;
Maratsos et al. 1985). However, recent studies with children learning Sesotho, K'iche' Mayan, and Zulu
show that the passive appears quite early in these languages, perhaps as early as 2;8 (Demuth 1990; Pye
and Quixtan Poz 1988). This difference in age of acquisition leads one to question whether the passive
is acquired randomly in a given language, or whether its time of appearance is regulated by certain factors
such as language structure or frequency in adult input. In order to ascertain this, one would seek to
study passive acquisition in languages that vary on the basis of these and other factors.
Inuktitut is an ideal language with which to address such a question since it is quite different structurally from the above languages. Inuktitut is of the Eskimo-Aleut language family which stretches from Siberia through Alaska and Canada to Greenland, and is spoken by some 23,000 people in northern Canada. It is a polysynthetic language in that the grammar of the language is based far more on what goes on inside words than on the ordering of the words themselves. It has ergative case marking, its word order is subject-object-verb, both subject and object are frequently elided, and there is prolific nominal and verbal inflection. In contrast, English is an analytical language which depends primarily on word order for grammatical information. It has accusative case marking, its word order is subject-verb-object, subject and object are almost never elided, and nominal and verbal inflection is minimal.

The present paper, then, focuses on the acquisition of the passive structure in Inuktitut with the goal of assessing time of appearance of the passive in children's language and possible influences on this timing. The paper begins with a brief review of the structure of the passive in English and Inuktitut, then presents data from three Inuit children which show very early acquisition of passive in both basic and complex patterns, and finally concludes by discussing the possible effect of the above factors with relation to the seeming precociousness of Inuit children in acquiring passives.

**STRUCTURE OF PASSIVE**

A typical English passive sentence is shown in (1b), with (1a) as the related active sentence.

1. (1a) Peter closed the door
   (1b) The door was closed by Peter

The noun phrase the door that is the object in the active sentence appears as the subject in the passive; the noun phrase Peter that is the subject in the active sentence appears optionally in a by-phrase in the passive; the passive morpheme -ed is affixed to the verb stem; and the verb to be is inserted.

The passive has essentially the same characteristics in Inuktitut, with different structural effects tempered by the above-mentioned structural differences between the languages. The standard passive in Inuktitut is formed with the morpheme -jau-. A typical example is given in (2b), with (2a) as the related active sentence:

2. (2a) Jaaniup niqi nirivaa
   Jaani-up niqi-0 niriv- vaa
   Johnny-ERG.sg food-ABS.sg eat-IND.3ss.3so
   'Johnny is eating the food'
   (2b) Niqi Jaanimut nirijujuq
   niqi-0 Jaani-mut niriju-juq
   food-ABS.sg Johnny-ALL.sg eat-PASS-PAR.3ss
   'The food was eaten by Johnny'

The object niqi in the active sentence becomes subject in the passive; the subject Jaani becomes a by-phrase in the passive; and the passive morpheme -jau- is inserted.

**ACQUISITION DATA**

In order to assess time of acquisition of the passive structure in Inuktitut, we looked at longitudinal data from three Inuit children collected as part of a larger project looking at general acquisition patterns of Inuit children. Data were collected by videotape in naturalistic communication situations between the children and various friends and family members in a small Inuit settlement on the western coast of Ungava Bay in northern Quebec. The primary language of interaction in business, community life, and the homes of these children is Inuktitut. Approximately four hours of data from each child were collected every month for nine months, and this study is based on that portion of the data that has been transcribed to date, as shown in (3).

3. Data Used for Passive Acquisition Study

<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>AGE</th>
<th>HOURS</th>
<th># PASS.</th>
<th>PASS/HR</th>
</tr>
</thead>
<tbody>
<tr>
<td>JUUPI</td>
<td>2:0 - 2:9</td>
<td>13.7</td>
<td>80</td>
<td>5.8</td>
</tr>
<tr>
<td>MAR</td>
<td>2:6 - 3:2</td>
<td>13.0</td>
<td>28</td>
<td>2.2</td>
</tr>
<tr>
<td>SUUSI</td>
<td>3:1 - 3:6</td>
<td>7.0</td>
<td>16</td>
<td>2.3</td>
</tr>
<tr>
<td>TOTAL</td>
<td>2:0 - 3:6</td>
<td>33.7</td>
<td>124</td>
<td>3.7</td>
</tr>
</tbody>
</table>

Two aspects of the data represented in this table are rather striking. The first is the age at which the Inuit children are using passives. As mentioned above, it is well-documented that English-speaking children only comprehend passives reliably after age 4:0. However, the Inuit children here are using passives themselves, and so by extension are likely comprehending them, well before age 4:0.

Secondly, one is struck by the frequency with which Inuit children use passives. The table in (4) summarizes data on use of passives in some other languages, and makes it clear that Inuit children use passives much more frequently on a per hour basis.
than do children from other languages studied so far.

(4) Data Concerning Passive Acquisition
Crosslinguistically

<table>
<thead>
<tr>
<th>LANGUAGE</th>
<th>AGE</th>
<th>HOURS</th>
<th># PASS.</th>
<th>PASS/HR</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>
</tbody>
</table>
(Pinker et al. 1987) |
| KITCHE' | 2;1-3;10 | 60 | 186 | 3.0 |
(Pyre and Quixtan Poz 1988) |
| SESOTHO | 2;1-4;1 | 84 | 139 | 1.7 |
(Demuth 1990) |

Typical examples of children's passives in Inuktitut are shown in (5):

(5) a una piir-tau-juq
   this one remove-PASS-PAR 3ss
   ‘This one was taken off’
   (Mae @ 2;6.26)

b kanna paa-jau-langa-mmi-ju
   that one beat- PASS-FUT-again-PAR 3ss
   ‘That one, he will be beaten up again’
   (Juupi @ 2;9.5)

c mauna matuir-tau-su-u-ngu-uuq
   by here open- PASS-HABIT-be-IND 3ss
   ‘Here is where it (mini organ) gets opened’
   (Juupi @ 2;9.5)

d tuqut-tau-langa-si-vungaa
   kill-PASS-FUT-PRES-IND 1ss
   ‘I'm going to get killed!’
   (Suusi @ 3;6.15)

In addition to merely providing numbers and examples of children' use of passives in Inuktitut, however, it is important to ascertain whether the children are using this structure productively or whether they are just reproducing memorized forms. The following subsection provides such evidence.

Productivity

A child is said to be using a structure productively when he produces an utterance that is in error with respect to the use of that structure in adult language but that makes sense from a purely grammatical point of view. Rather than merely repeating a form memorized from the speech he hears around him, the child is seen to be applying the grammatical rules he is learning in the language acquisition process. While correct utterances could derive from either strategy, errors betray the attempt to use these rules to form new utterances. Some examples follow.

The first relevant error is phonological. In Inuktitut, the passive morpheme has two allomorphs: -jau- after vowels and -tau- after consonants. If the child is producing the passive with only memorized forms he should never use the incorrect allomorph, but if he is producing the passive productively he may well mistake the allomorph until he has mastered the appropriate phonological rules. The verbal bases kalik- ‘to pull’ and tikit- ‘to arrive’ end in consonants so should take the -tau- allomorph. However, in the examples in (6), Juupi incorrectly uses the -jau-
allomorph.

(6) a anaanaa kali-jau-guma-junqa (should be kalitaugumajunga)
   mother tow-PASS-want-PAR 1ss
   ‘Mom, I'd like to be pulled!’
   (Juupi @ 2;9.5)

b tiki-jau-niar-qa aluu-raalu (should be tikittaauniarquq)
   arrive-PASS-FUT-IND 3ss white person-EMPH
   ‘The white person will be brought
   (something)’
   (Juupi @ 2;9.5)

Another type of evidence concerning productivity is use of the passive with semantically incorrect forms. In (7), Juupi says taatqauarlrtunqa ‘my view is being blocked by something’, when in fact there is nothing in his way. In this situation he is trying to watch television, but the screen is blank because the plug has been pulled out. The verb root taqq- 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 right way to express what he is trying to say.

(7) taar-tau-lir-tunqa
darken-PASS-PRES-PAR 1ss
   ‘My view is being blocked by something’
   (Juupi @ 2;6.5)

Example (8) shows a morphological error on Juupi’s part. The passive morpheme will only affix onto transitive verb roots. In (8), however, Juupi is trying to passivize a noun incorporation structure
that is an intransitive verb root and does not permit passivization.

(8) \[\text{paisiku-si-jau-ma-qatta-ruma-ngi-tunga}\]
    bicycle-buy-PASS-PERF-HABIT-want-NEG-PAR 1ss
    ‘I don’t want to be bought a bicycle’
    (Juupi @ 2;6.5)

In (9), Suusi commits an error of omission. She incorrectly omits the passive morpheme in a word, then corrects herself in the next utterance. Since she corrects herself by inserting the passive morpheme in the appropriate position, it is obvious that she is forming the passive structure productively.

(9) \[\text{aanniasiu-si-gavi (corrected to}\]
    aanniasiurtausiga\text{vit in next utterance)}\]
    check up-PRES-CAUS 2ss
    ‘You are going for a medical check-up’
    (Suusi @ 3;4.13)

Each of these types of examples seems to lead clearly to a conclusion of productivity of the passive structure for these children, and demonstrates that the passive in its simple form is acquired at an early age. In addition to learning the basic passive early, Inuit children also use rather complex forms at an early age. The following two subsections provide evidence to substantiate this claim.

Full passive

The first of these more complex forms is the full passive, so called because it has not only a passive participle verb form, but also a by-phrase. English-speaking children typically use very few full passives, especially in early years (Horgan 1978). However, in the data from Inuktitut, we find that one fifth of the passives used (23/124) are produced with by-phrases. The sentences in (10) represent examples of use of full passive.

(10) a \[\text{ataata-mut tako-jau-}t\text{-sa-ruar-mat}\]
    father- ALL sg see-PASS-really-might-CAUS 3ss
    ‘It might be seen by father’
    (Juupi @ 2;0.11)

b \[\text{apuq-tau-langa-gama haanta-alu-nganut}\]
    run over-PASS-FUT-CAUS 1ss honda-EMPH-ALL his Charlie-ERG sg

‘Will I get run over by Charlie’s Honda?’
    (Juupi @ 2;3.8)

c \[\text{qimmi-alum-mu niri-jau-si-mmata}\]
    dog-EMPH- ALL sg eat-PASS-PRES-CAUS 3ss
    ‘It will be eaten by the dog’
    (Juupi @ 2;6.5)

d \[\text{piara-alu-ganu asi-ti-uu-ar-tuq}\]
    baby- EMPH-ALL my disappear-CAUS-PASS-FUT-PAR 3ss
    ‘It will be made to be lost by my baby’
    (Mae @ 3;1.24)

e \[\text{pani-ga am quickiuti-mut am tuquit-tau-giaqa-nngi-tuq}\]
    daughter-ABS my um gun-ALL sg um kill-PASS-must- NEG-PAR 3ss
    ‘My daughter um by gun um is not to be killed’
    (Mae @ 3;2.26)

Passive with experiential verbs

The second example of more complex passives are those formed with experiential verbs such as see and understand, as opposed to actional verbs such as hit and kick. English-speaking children typically form only actional passives until quite late, mastering comprehension of experiential passives at about age 9;0 (Maratsos et al. 1985). It is certainly clear that most of the verbs used in passive by the Inuit children reported on herein tend more towards the “actional” range of the scale. However, 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. Some of these are given in (11):

(11) a \[\text{atjiliur-tau-guma-nngi-tunga}\]
    film-PASS- want-NEG-PAR 1ss
    ‘I do not want to be photographed’
    (Juupi @ 2;1.3)

b \[\text{takunnaa-tau-langa-mmata avani-it-tu-alu-it}\]
    watch-PASS-FUT-CAUS 3ps there-be-NOM-EMPH-ABS pl
    ‘They will be watched, the ones over there’
    (Juupi @ 2;6.5)
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c  imir-tau-langa-mmats atata-mut anaana-mut
    fill with water-FUT-CAUS 3s father-ALL sg
    mother-ALL sg
    ‘It will be filled with water by dad, by mom’

    (Mae @ 2;8.27)

d  qimat-tau-gavit
    leave behind-PASS-CAUS 2ss
    ‘You got left behind!’

    (Suusi @ 3;4.13)

e  taqai-jau-luta (should be taqaijaugarttali)
    tire-PASS-CTM 1ps
    ‘(Something) will make us worn out’
    LIT: ‘We will be tired (tire-ed)’

    (Suusi @ 3;5.15)

f  taku-jau-nia-nngi-navi
    see-PASS-FUT-NEG-CAUS 2sS
    ‘So you won’t be seen’

    (Mae @ 3;1.24)

CONCLUSION

The above data demonstrate that passive structures in both simple and complex forms are used productively by at least three Inuit children between the ages 2 years and 3 years 6 months. While comprehension of passive has not been measured with these children, it is commonly assumed that comprehension precedes production in language acquisition, for most structures. Thus it is safe to assume that the Inuit children reported herein have acquired the passive structure as much as two years earlier than their English-speaking counterparts, and with a greater frequency and range of use.

Explanations

In the previous section we have shown that Inuit children acquire passive structures much earlier than do English-speaking children. In light of our original goal of explaining the time difference in passive acquisition, we now present two possible reasons for the precociousness of Inuit children in this area.

Input

The first possibility to be considered is the age-old input hypothesis — the idea that children learn first what they hear the most in the language around them. Thus, if Inuit children hear many more passive structures in the speech addressed to them than do

English-speaking children, the Inuit children should learn the passive earlier. While the validity of this hypothesis has been questioned frequently in the literature, the relevant data concerning the passive structure do merit consideration. A summary of adult to child input data from two studies in English and our own in Inuktitut is in (12).

(12) ADULT INPUT DATA

<table>
<thead>
<tr>
<th>STUDY</th>
<th>HOURS</th>
<th># PASS</th>
<th># FULL</th>
<th>PASS/HR</th>
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<tr>
<td>ENGLISH</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Gordon &amp;</td>
<td>293</td>
<td>313</td>
<td>4</td>
<td>1.1</td>
</tr>
<tr>
<td>Chafetz, 1990</td>
<td>97.6</td>
<td>313</td>
<td>4</td>
<td>3.2</td>
</tr>
<tr>
<td>Maratsos, 1985</td>
<td>37.5</td>
<td>101</td>
<td>1</td>
<td>2.7</td>
</tr>
<tr>
<td>1991</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INUKTITUT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allen and Crago,</td>
<td>26.7</td>
<td>238</td>
<td>35</td>
<td>8.9</td>
</tr>
</tbody>
</table>

It is rather interesting that higher frequency of passive use in input in Inuktitut co-occurs with higher frequency and earlier acquisition of passive use in Inuit children. This leads one seriously to consider input as a relevant factor. However, it is also quite possible that the reason for high frequency use of passive in adult speech and high frequency use of passive in child speech are in fact not causally related but rather derive together from the same cause, namely some aspect of language structure and use that makes passive in general more frequent and/or important in Inuktitut than in English.

Language structure

Another possibility that might help to explain the earlier acquisition of passive in Inuktitut is the difference in language structure between English and Inuktitut. Since Inuktitut is a polysynthetic language, it uses the kinds of syntactic processes needed to form passive in a large number of other structures as well. English, on the other hand, hardly ever uses such processes. Perhaps Inuit children can produce these seemingly complex structures at such a young age because they are more essential for expressing even basic concepts in Inuktitut. Such processes as causative, desiderative, and antipassive, which arguably use the same syntactic processes as the passive in Inuktitut, are already being used correctly by Inuit children at this age, whereas the relevant processes in English would not yet be in place in an English-speaking child of the same age.
Misleading English data

A final possibility is that further more detailed research will somehow show that the data cited above for English passive acquisition does not in fact tell the full story, and that the passive is actually acquired much earlier in English, though not used as frequently and therefore not as apparent (White, personal communication).

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GLOSSARY

accusative case marking: a pattern of inflection on nouns by which the subjects of both intransitive and transitive verbs are marked by one set of affixes and the object of a transitive verb is marked by another set of affixes

allomorph: a variant form of a morpheme

case: an inflectional category that marks the grammatical and/or semantic function of a noun phrase

ergative case marking: a pattern of inflection on nouns by which the subject of an intransitive verb and the object of a transitive verb are marked by one set of affixes and the subject of a transitive verb is marked by another set of affixes

inflection: an affix on a word that marks the grammatical subclass to which that word belongs

intransitive verb: a verb that cannot take a direct object

longitudinal study: a study that collects data from a small number of subjects at intervals over an extended period of time, rather than only once or twice

modality: an aspect of a verb indicating the way in which the speaker regards the denoted action

morpheme: a minimal meaning-bearing unit of language

morphology: the various phenomena relating to words and their internal structure

phonology: the various phenomena relating to sounds and sound patterns in language

polysynthetic language: a language that makes extensive use of words made up of two or more morphemes, and that is particularly complex in terms of the number of morphemes it can combine and the type of allomorphic variation it exhibits

production data: data collected by assessing the subject's own spontaneous or elicited speech rather than his/her comprehension of others' speech

root: the basic form of the word to which no affixes have yet been attached

semantics: the various phenomena pertaining to the meaning of words and sentences

stem: the form of the word to which an affix is attached; it may or may not have other affixes already attached

syntax: the various phenomena pertaining to the form and structure of sentences

transitive verb: a verb that takes a direct object

NOTES

1. Ages are given in the following format: YEARS, MONTHS, DAYS. Thus the age "2 years 8 months 14 days" is represented as "2.8.14". Days and months are omitted where not relevant.

2. Terminology and abbreviations are explained in the glossary below.
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ABBREVIATIONS

ABS    absolution case
ALL    allative case
CAUS   causative modality
CTM    contemplative modality
EMPH   emphatic
ERG    ergative case
FUT    future tense
HABIT  habitual
IND    indicative modality
NEG    negative
NOM    nominalizer
PAR    participial modality
PASS   passive
PERF   perfective aspect
PRES   present tense
sg     singular
1pP, 1pS first person, plural, subject (we)
3sS, 3sS third person, singular, object (him/her/it)

REFERENCES


