The Acquisition of Passives and Unaccusatives in Inuktitut*

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Abstract

Evidence from late acquisition of passive structures and early overgeneralization of lexical causatives in English child language has been taken as evidence for maturation as an important process in language acquisition (Borer & Wexler, 1987). However, recent cross-linguistic research shows relatively early acquisition of passive in several non-Indo-European languages, apparently countering the claim of maturation and attributing relative time of acquisition of passive to language-specific factors (Demuth, 1989; Pye & Quixtan Pos, 1988; Suzman, 1985). This paper presents naturalistic spontaneous speech data from three Inuit children, aged 2;0 through 3;6, which also argue that a maturation hypothesis cannot be tenable as currently formulated. Inuktitut data show productive mastery of passive structures as early as 2;0 and lack a clear causal relationship between the D-structure of intransitive verbs and the overgeneralization of lexical causatives. The paper argues that the ergative structure of Inuktitut adequately accounts for these language-specific facts.

Introduction

The starting point of this paper is the Maturation Hypothesis of language acquisition developed by Borer & Wexler (1987; henceforth B&W). The central claim of this hypothesis is that certain principles of grammar mature in the same way as other biological functions, such as secondary sexual characteristics, mature within the human body. All aspects of Universal Grammar are not present from birth, but rather certain principles follow some kind of maturational schedule. Certain aspects of the timing and ordering of language acquisition, then, can be explained simply by maturation, thereby getting past the need for a triggering mechanism. While this may be conceptually appealing, there are a variety of difficulties with such a hypothesis, some of which come from studies of cross-linguistic acquisition and one of which will be explored in this paper.

In elucidating their arguments for a Maturation Hypothesis, B&W focus on one principle of grammar - that governing the ability to form A-chains. A-chains, or argument chains, are required in cases of NP-movement including both passives and unaccusatives. B&W claim that the principle governing A-chain formation matures late, at about age 4.

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They use 2 sources of data to support this claim - facts concerning late acquisition of verbal passives and facts concerning overgeneralization of lexical causatives to unergative verbs. If children are unable to form a-chains until age 4, the acquisition facts concerning both these structures can be easily explained.

If the Maturation Hypothesis is true, then, one expects such facts concerning acquisition of NP-movement structures to hold across a wide variety of languages of differing typologies. It is exactly this prediction that will be explored in this paper, with particular reference to acquisition data from Inuktut, the language of the Inuit of northern Canada. Original data from 3 Inuit children aged 2 through 3;6 will be used, addressing acquisition of passive structures and of lexical causatives of intransitive verbs. It will be shown that in both these areas Inuit children do not exhibit the same acquisition patterns as English-speaking children. In fact, they evidence little difficulty with the passive construction even at early ages, and do not exhibit a clear tendency to overgeneralize lexical causatives to unergative verbs compared with similar difficulties with related structures. Some potential reasons for this difference will also be explored, concluding that it may well be related to the ergative and polysynthetic nature of the structure of Inuktitut.

**Maturation Hypothesis**

The essential claim of the Maturation Hypothesis is given in (1).

1. **Maturation Hypothesis** (Borer & Wexler 1987)

   Grammatical principles mature according to a biological program, analogous to maturation of secondary sexual characteristics. Neither learning nor triggering is implicated in explanation of ordering of acquisition.

As already mentioned, it attempts to explain ordering in acquisition by claiming that certain grammatical principles mature in the same fashion as certain 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 need to be invoked in the explanation of ordering of acquisition.

As already noted, the major empirical facts supporting this claim center around the maturation of the principle governing a-chain formation in NP-movement structures including passives and unaccusatives. In each of these cases an NP is base-generated in object position at D-structure and receives a theta role in that position. However, case cannot be assigned to that position for various reasons, and therefore the NP must move up to SPEC of INFL, typically an A-position, to get case. The a-chain, then, links the moved argument to the trace in the position it has moved from and enables transmission of the theta-role from the base-generated position to the s-structure position. The basic structure is shown in (2).

![Diagram of NP structure](image-url)
If children cannot represent this structure, then, they will have difficulty with those structures requiring NP movement. They will either not use the structure at all until they get the principle, or they will misrepresent the structure, only correcting their representation once the principle matures. The former possibility describes B&W's approach to passive acquisition in English, while the latter describes their approach to the causative alternation associated with unaccusatives. Each of these structures will be discussed in turn. In each section, we will first present the structure in English and the related acquisition data, then the structure in Inuktitut and the related acquisition data.

**Passive Structures**

*Structure of Passive in English*

An example of a passive sentence, contrasted with a related active sentence, is given in (3).

(3)  **Typical Verbal Passive**

a. Peter kicked the door.

b. The door was kicked by Peter.

Passives of this sort are called verbal passives since the passive participle is assumed to still retain its verbal nature. They are said to exhibit at least three properties, as shown in (4).

(4)  **Properties of Verbal Passive**

a. logical object moves to subject position

b. copula and passive participle form of verb

c. logical subject optionally in adjunct *by*-phrase

First, the logical object moves to subject position. Second, the copula and the passive participle form of the verb are used. Third, the logical subject optionally appears in an adjunct *by*-phrase. Current Government-Binding analyses such as that found in Baker *et al* (1989) claim, as already noted, that this passive is formed between D-structure and S-structure by the syntactic process of NP-movement and the syntactic affixation of the passive morpheme through head movement. The process of NP-movement, by which the logical object moves to subject position, constructs an argument-chain (A-chain) which facilitates association of the trace with the moved NP, as shown in (5):

(5)  **Derivation of Verbal Passive**

a. ______ was kicked the door (by Peter).

b. [the door]₁ was kicked e₁ (by Peter).

A tree diagram of this sentence is given in (5c):
c. IP
   NP [the door]_i
   I be
   VP kicked

In English and many other languages, there is also another type of passive called the adjectival passive, so named because the passive participle is assumed to have an adjectival rather than verbal function. The adjectival passive participle is treated like a normal adjective. Where the verbal passive describes an action, process, or experience, the adjectival passive describes the related state of being. It is presumed to be fully formed in the lexicon and then base-generated as is, along with the rest of the structure, at D-structure. In English these two types of passive happen to have exactly the same form, though in most other languages two different forms are used. The difference between verbal and adjectival passives is exemplified by comparing two potential readings of (3b).

(3b) The door was kicked by Peter.

If the by-phrase is included, the sentence represents a verbal passive since it describes the action of closing undertaken by the agent Peter. If the by-phrase is excluded, either the passive could be verbal with an implied agent Peter, or it could be adjectival describing the closed state of the door but without reference to how the door came to be in this state.

The similarity between adjectival passive and normal adjective can be seen in the sentences in (6).

(6) Typical Adjectival Passive

a. The door is orange/closed *(by Peter).
b. The door seems orange/closed *(by Peter).

The distinction between these two types of passives becomes quite important in reference to the acquisition data. What we are attempting to infer by looking at children's acquisition of passive is their developing ability to deal with the syntactic structures and mechanisms of the language. A child using an adjectival passive is, for our purposes here, using a basic declarative sentence since the passive participle for him is just another lexical item. However, a child using a verbal passive is demonstrating mastery of syntactic abilities, particularly in terms of word order rules and movement patterns. Several tests have been developed to distinguish between these two in English (Wasow, 1977). To emphasize again, since the item of interest here is the acquisition of syntax abilities and not acquisition of lexical items, only instances of verbal passive serve as relevant data; adjectival passives give no relevant information about the acquisition of syntax, at least in English.

English Acquisition Data

Two primary groups of findings have emerged from research in acquisition of the English passive over the past two decades. The first is that early instances of passives produced spontaneously seem to be predominantly adjectival rather than verbal, and the second is that
clearly verbal passives seem to be reliably comprehended in carefully designed experimental situations only by age 4;0 which is reasonably late in the acquisition sequence. Several types of evidence support each of these points, and will be dealt with in turn.

One small point about research in this area is necessary first. It is a well-known fact that English-speaking children do not frequently produce passives in their spontaneous speech, and thus it is impossible to determine their level of mastery of passive from production data alone. Therefore, researchers have relied primarily on comprehension, imitation, and elicited production tasks to provide this information, as will become evident below.

**Adjectival Passives Precede Verbal Passives**

Recall from above that adjectival passives do not show advanced development of syntactic knowledge while verbal passives do. Therefore if it can be shown that early instances of passive are all adjectival and that verbal passives only come later, it follows that the syntactic knowledge required for verbal passives is a later acquired phenomenon. In a language where the two forms are distinct, such as Hebrew or German, this task is quite simple. In a language like English where the two forms are homophonous, this task is not so easy. Though there have been several tests devised to distinguish between adjectival and verbal passives in English, it is not so easy to ask a child of 2;0 to apply these tests to the sentence he just uttered to the friend who just stomped on his tricycle. Thus, in many cases it is necessary to infer from other indicators whether the passive used is adjectival or verbal in nature; some of these are given in (7).

(7) **Adjectival Passives Precede Verbal Passives**

a. “after the fact observation on the state of things” (Horgan, 1978:68)
b. truncated passives much more frequent than full passives (Horgan, 1978)
c. passives of actional verbs precede passives of actional verbs (Maratsos et al, 1985)

One way to make this inference is by observation of the context of the utterance. If the child is making an observation about the state of things, he is likely using an adjectival passive; if he is commenting on an ongoing or recently completed action, he is likely using a verbal passive. In a picture description task involving English-speaking children aged 2;0 to 4;2, Horgan (1978:68) found that the majority of children's passives used inanimate objects and verbs which were frequently used as statives, and were “almost exclusively an after-the-fact observation on the state of things.” Thus she concluded that children acquired adjectival passives before verbal passives.

Horgan also noted that while children in her task used both truncated passives without by-phrases and full passives with by-phrases, the majority of the truncated passives had stative meanings while all of the full passives were verbal, using animate logical objects and a wide variety of action verbs. Thus she concludes that at this stage short passives are exclusively adjectival while only full passives are verbal. Her data also show that the percentage use is much higher for short passives than for full passives at this age, and thus it is often construed as evidence that adjectival passives are acquired before verbal passives in English. Other production-based studies seem to confirm this conclusion: Harwood (1959) found no instances of full passive in over 12,000 utterances of five-year-old children, and Brown (1973) found very few full passives in his data from Adam, Eve, and Sarah.

Finally, researchers often assume different types of passives correlate with the degree of transitivity (Hopper & Thompson, 1980) of the verb used. Action verbs such as
hit, break, and kick tend to be used for both verbal and adjectival passives whereas experiential verbs such as see, like, and understand tend to be used only in verbal passives. Several comprehension and production studies show that children tend to learn the passive of action verbs (performance above chance by about age 5;0) before they learn the passive of experience or perception verbs (performance above chance only about age 9;0), and that subjects aged 3;0 through 11;0 perform significantly better on a variety of tasks involving actional rather than experiential passive sentences (Maratsos et al 1979; Maratsos et al 1985; Lempert, 1978; Sinclair et al 1971; Sudhalter & Braine 1985; Gordon & Chafetz, 1990).\footnote{However, experimental data from Pinker et al (1987) suggests that these results may not reflect true competence but rather may be a measure of exposure or experience. Pinker et al performed 2 experiments with children aged 4 and 3;0 to 5;6 respectively, in which the children were taught novel action and perception verbs in either active or passive voice, and then tested for comprehension and production of these verbs. Though children did not passivize nonaction verbs in great numbers, they did not avoid nonaction passives and they were able to produce passives of novel verbs previously taught only in the active voice. Older children clearly performed better than younger ones.} Since experiential verbs cannot typically form adjectival passives whereas most actional verbs can, it is claimed that the difference in acquisition time is further evidence for adjectival preceding verbal passive.

Each of these three types of evidence, then, seems to show adjectival passives preceding verbal passives.

Late Acquisition of Clearly Verbal Passives

Another body of literature concerns late acquisition of the verbal passive, with two primary sources of data as listed in (8).

(8) Verbal Passives Acquired Late

a. above chance on comprehension tasks only after age 4;0 (Bever, 1970)

b. imitation at ceiling only after age 4;0 (Baldie, 1976)

The first source of data involves comprehension tasks, assuming that a child will have to use his syntactic knowledge to correctly comprehend a passive sentence. On comprehension tests involving reversible active sentences, children aged 2;0 to 3;0 performed at a 60% to 70% accuracy rate (Lovell & Dixon, 1965; Bever, 1970; de Villiers & de Villiers, 1973). By contrast, on comprehension tests involving reversible passive sentences, children did not attain better than chance performance until after age 4;0 (Bever 1970; Maratsos, 1974; Baldie, 1976; Fraser et al, 1963; de Villiers & de Villiers, 1973; Lempert, 1978).

A second type of data involves imitation tasks, under the assumption that a child will only be able to imitate those items he has already acquired in his own syntax. It has been found that children were able to imitate reversible passives only about 50% correct at 3 years of age (Fraser et al 1963), and did not achieve ceiling levels of performance until 4;6 (Baldie, 1976) or 4. 32 (Turner & Rommetveit, 1968).

It is important to note at this point that although B&W present the above as unchallenged facts, several difficulties are evident with such a view, as shown in (9).

(9) Difficulties

a. elicited production from picture description task (Pinker et al, 1987)

b. skewed interpretation due to infrequent spontaneous production of passives
c. experimental manipulation of input increases production of passives (Pinker et al., 1987)

d. crosslinguistic data shows acquisition as early as 2:8 (Demuth, 1989; Pye & Quixtan Poz, 1988; Suzman, 1985)

First, all of Horgan’s data was from elicited production tasks in which children were describing pictures. It is not particularly surprising, then that she found an overwhelming number of adjectival passives since that is what would be expected. Second, it is quite possible that the facts reported concerning passive acquisition reflect a skewed interpretation due to infrequent production of passive structures. Several researchers have noted informally that their own English-speaking children used passives productively well before 4:0 (Melissa Bowerman, p. c.; Eve Clark, p. c.; Dan Slobin, p. c.; Lydia White, p. c.), and this is documented from Bowerman’s diary data in Budwig (1990). Third, at least three studies have shown that English-speaking children’s production of passive structures increases when frequency of passive input is increased over normal levels as part of the experimental conditions (Baker & Nelson, 1984; Crain, Thornton & Murasugi, 1987; Pinker, Lebeaux & Frost, 1987). Finally, several crosslinguistic studies in languages such as Sesotho (Demuth, 1989), Zulu (Suzman, 1985), and K’iche’ Mayan (Pye & Quixtan Poz, 1988) show that syntactically formed verbal passives are acquired productively at least as early as 2;8.

Having reviewed the structure of passive in English and the related acquisition facts, we now move on to the structure of passive in Inuktutut and the relevant acquisition facts there. As we proceed, the contrast in acquisition facts between English and Inuktutut will become apparent.

**Structure of Passive in Inuktutut**

Inuktutut is a member of the Eskimo-Aleut language family with a number of salient characteristics as listed in (10).

(10) **General Characteristics of Inuktutut**

   Eskimo-Aleut family; polysynthesis; SOXV word order; ellipsis of subject and object; prolific verbal and nominal inflection; ergative case marking; agreement for 4 persons and 3 numbers; 8 cases; 10 verbal modalities

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.² Nouns are marked for number (sg, du, pl) and person (1, 2, 3, 4)³ and number (sg, du, pl) of possessor if relevant, for one of eight cases (ERG, ABS, MOD, ALL, ABL, LOC, VIAL, SIM)⁴; verbs are marked for person (1, 2, 3, 4) and number

² Some controversy exists among Eskimologists as to whether many structures in Inuktutut, including the passive, are essentially verbs or nouns, and, connected but independent, whether structures in Inuktutut are formed lexically or syntactically. The former argument centers around the similarity between certain verb paradigms and certain possessive nominal inflection paradigms, while the latter is an ongoing debate among morphologists and syntacticians worldwide. We adopt the position that the passive derives from a verb structure formed syntactically, for a variety of reasons too detailed to present here. Arguments defending a nominalist position are summarized in Johns (1992); those defending a verbalist position are summarized in Woodbury (1985).

³ Inuktutut exhibits switch reference properties for subjects of subordinate clauses. In this sense, 3rd person refers to a subordinate subject which is disjoint from the main clause subject, and 4th person refers to a subordinate subject which is coreferent with the main clause subject.

⁴ The following abbreviations are used for case inflections: ERG = ergative; ABS = absolutive; MOD = modalis; ALL = allative; ABL = ablative; LOC = locative; VIAL = vialis; SIM = simulative.
(sg, du, pl) of subject, and of object if relevant, for one of four main clause (IND, PAR, INT, IMP) or six subordinate clause (CAUS, COND, DUB, CTM, ICM, NCM) modalities.

Since Inuktitut is an ergative language, its case marking system follows an ergative pattern. Whereas in accusative languages subjects of both intransitive and transitive are marked with NOM case and object of transitive is marked with ACC, in ergative languages the subject of transitive is marked with ERG case, and the subject of intransitive and object of transitive pattern together, being marked by ABS. There are three basic types of clauses in Inuktitut, as evident in (11):

(11) Three Clause Types

a. Ergative Clause
   
   Jaaniup niqi nirivaa.
   Jaani-up niqi-0 niri-vaa
   Johnny-ERG. sg food-ABS. sg eat-IND. 3sS. 3sO
   ‘Johnny is eating the food.’

b. Antipassive Clause
   
   Jaani niqimik nirivuq.
   Jaani-0 niqi-mik niri-0-vuq
   Johnny-ABS. sg food-MOD. sg eat-ANTP-IND. 3sS
   ‘Johnny is eating the food.’

c. Intransitive Clause
   
   Jaani nirivuq.
   ‘Johnny is eating.’

The “ergative” clause in (11a) contains both an ERG subject and an ABS object, both marked in verbal inflection. The “antipassive” clause, often seen in ergative languages, also contains both subject and object, but the object is “demoted” to an oblique instead of being treated syntactically as a direct object. The subject is marked with ABS case, and the object with MOD case. Only the subject is marked in verbal inflection, and an antipassive morpheme appears immediately following the verbal stem, though it is often null in Inuktitut. An example is in (11b). (11c) shows an “intransitive” clause. Intransitives contain only a ABS subject which is marked in verbal inflection, as in (11c).6,7

5 The following abbreviations are used for verbal modalities: IND = indicative; PAR = participial; INT = interrogative; IMP = imperative; CAUS = causative; COND = conditional; DUB = dubitative; CTM = contemporative; ICM = incomtemporative; NCM = negative contemporative.
6 All unacknowledged Inuktitut examples are taken from the author’s field work with speakers of the Northern Quebec dialect of Inuktitut.
7 The following conventions are used in glosses in this paper:
Simple noun inflections are glossed with case and number of noun:
ABS.sg = absolutive case, singular noun;
ALL.pl = allative case, plural noun
Possessed noun inflections are glossed with case, person and number of possessor, and number of noun:
ERG.3Ssg = ergative case, 3rd singular possessor, singular noun
LOC.2Pdu = locative case, 2nd plural possessor, dual noun
Verbal inflections are glossed with modality, person and number of subject, and person and number of object where relevant:
IND.3S.1pO = indicative modality, 3rd singular subject, 1st plural object
CAUS.4dS.2sO = causative modality, 4th dual subject, 2nd singular object
Verbal Passive

As in English, Inuktutit exhibits both adjectival and verbal passives. However, unlike in English, the two forms are not homophonous, and both forms are formed syntactically. A typical verbal passive is shown in (12).

(12) Typical Verbal Passive

*Niqi Jaanimut nirijaujuq.*
niqi-0 Jaani-mut nir-i-jau-juq
food-ABS. sgJohnny-ALL. sg eat-PASS-PAR. 3sS
‘The food was eaten by Johnny.’

The verbal passive construction in Inuktutit exhibits essentially the same characteristics as does the verbal passive in English. The logical object appears in surface subject position, the logical subject optionally appears in a surface oblique phrase (inflected with allative/instrumental case\(^8\)), and the passive morpheme \(^{-}jau\)\(^9\) is affixed to the verb stem. The \(^{-}jau\)-passive construction is similar to the passive construction in English in that the \(^{-}jau\)-morpHEME is complex, being composed of both the passive participle \(^{-}jaq\)- and the denominal copula \(^{-}u\). (Fortescue, 1984; Kalmar, 1979; Smith, 1981; Woodbury, 1975).\(^{10}\)

The inflection on a passive verb form marks only the subject since there is no surface object present in the construction. The surface subject is inflected for absolutive case.\(^{11}\)

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Glosses in examples quoted from other authors will be altered to reflect this notation. However the actual Inuktutit transcription or morpheme breakdown will not be changed except to add the null absolutive singular morpheme.

\(^8\) This case marking is true for the Northern Quebec dialect of Inuktutit. In some other dialects, the ablative case is used to mark the passive agent and/or the secondary case is used to mark the instrumental role.

\(^9\) In West Greenlandic, the standard "dynamic" passive morpheme is \(^{-}niqaq\)-, a composite of the abstract nominalizer \(^{-}niq\)- 'the process/act/state of Ving' and the denominizing affix \(^{-}qaq\)- 'have':

i. nanuq-0inan-nituq-niqar-puq
   bear-ABS.sgperson-ABL.plsee-PASS-IND.3sS
   ‘The people are seen by the bear.’
   (WG; Fortescue, 1984:265)

The passive form with \(^{-}jau\)- (\(^{-}saa\)- in WG) is claimed by Fortescue (1984:265) to serve a more stative role in WG, typically used in such sentences as:

ii. asa-saa-vuq
   love-PASS-IND.3sS
   ‘She is loved.’
   (WG; Fortescue, 1984:266)

iii. tuq-tuu-vaq
   kill-PASS-IND.3sS
   ‘He was killed.’
   (WG; Fortescue, 1984:266)

However, Fortescue also says that with some verbs there is little difference between dynamic and stative passive, as seen in (iii) and (iv):

iv. nukappiaraq-0 Maalia-mit qimmi-mik tuni-saa-juma-suq
   boy-ABS.sgMaalia-ABL.sg dog-SEC.sg give-PASS-want-INTR.PART
   ‘the boy who wanted a dog by Maalia’
   (WG; Fortescue, 1984:53)

Note that the participial forms cannot serve as verbal inflections in WG.

\(^{10}\) Kalmar (1979) claims the passive participle itself may also be broken down into two parts: the participial affix \(^{-}j\)- and the verbal two-place marker \(^{-}aq\)- which is present in both indicative and participial two-place verbal inflections, followed by a person affix. This may well be true, but reflects a level of analysis that is somewhat controversial in the literature and in more depth than necessary for the present discussion. For these reasons it will not be referred to in the remainder of this paper.

\(^{11}\) The question of whether to analyze the passive in Inuktutit as syntactic or lexical is not uncontroversial among Inuktutit linguists. Discussion arises primarily over the supposed lexical nature of the passive participle \(^{-}jaq\)-. As noted above, the \(^{-}jau\)- passive morpheme is analyzed as a composite of the passive participle \(^{-}jaq\)- and the denominal copula \(^{-}u\). The passive participle \(^{-}jaq\)- by itself serves as a nominalizer, forming constructions as in (i):
An S-structure tree for the Inuktitut passive is shown in (13). Between D-structure and S-structure, the main verb first merges with the passive morpheme, then this conglomerate incorporates into the auxiliary verb which then moves to INFL. The logical object NP also moves into subject position.

(13) Derivation of Verbal Passive

\[
\begin{array}{c}
\text{IP} \\
\text{NP} \quad \text{I}' \\
\text{niq} \quad \text{VP} \\
\text{IP} \\
\text{V} \quad \text{nir} \quad \text{jaq} \quad \text{u} \\
\text{VP} \\
\text{I} \\
\text{t} \\
\text{NP} \\
\end{array}
\]

i. nirijaq kapijaq
eat-PP stab-PP

‘that which is eaten’ ‘that which is stabbed’

The denominal copula by itself typically verbalizes nouns, as in (ii):

ii. Lisi ama-u-juq

Lizzie woman-be-PAR.3sS

‘Lizzie is a woman.’

These facts have led some linguists to believe that the -jaq- construction is actually the verbalizing of a nominal formed with -jaq- in the lexicon, rather than a true verbal passive. This interpretation is illustrated in the alternative glosses for (iii):

iii. niqi Jaani-mut niriau-juq (= niriaq-u-juq)

food Johnny-ALL.sg eat-PASS-PAR.3sS (= eat-PP-be-PAR.3sS)

SYN: ‘The food was eaten by Johnny.’
LEX: ‘The food is [the eaten by Johnny thing].’

The same participle -jaq- is also implicated in “two-place” verbal inflections in the participial modality. If the inflection is broken into two parts, the first part has the form -jaq-, while the second part bears a striking resemblance to appropriate possessive nominal inflections. This has led some scholars to analyze such constructions as possessed nouns rather than verbs, as shown in (iv):

iv. angutiu-up nanuq kapijaanga (= kapijaq-nga)

man-ERG.sg bear stab-PAR.3sS.3sO (= stab-PP-3Ssg(his))

SYN: ‘The man stabbed the bear.’
LEX: ‘The bear is the man’s stabbed one.’

As a result of these data, several scholars have taken the position that what seem like verbs in Inuktitut are really nouns, and that clauses are sets of noun phrases with predicational force (Thalbitzer, 1911; Hammerich, 1951; Hofmann, 1978; Johns, 1987, 1992; Lowe, 1978; Schultz-Lorenzen, 1945). Other scholars see each of the above as separate constructions and do not lump all together as nominals (Bergsland, 1955; Woodbury, 1985; Sadock, 1990). Sadock (1990) points out that the similarity of paradigms detailed above involves only 12% of the possible noun inflections and 3% of the possible verb inflections in Inuktitut. The parallels cited do not extend beyond the participial verbal modality to other modalities or beyond the absolutive nominal case to other cases as one would expect if the verb-as-noun claim were true. A more likely explanation is that the forms are diachronically but not synchronically related. At any rate, there is sufficient evidence of the syntactic nature of the passive in Inuktitut to proceed under this assumption until further data can be uncovered.
Adjectival Passive

The semantic equivalent of the English adjectival passive is formed for a subset of verbs in Inuktitut with the perfective affix *-sima*, as in (14).

(14) Typical Adjectival Passive

a. Igalaag salummasarsimajuq (*Jaanimut).
   igalaag-0 salummasaq-sima-juq
   window-ABS. sg clean-PERF-PAR. 3sS
   ‘The window is cleaned (*by Johnny).’

b. Itsivik tatasmajuq (*Jaanimut).
   itsivik-0 tatat-sima-juq
   box-ABS. sg fill-PERF-PAR. 3sS
   ‘The box is filled (*by Johnny).’

The -sima- passive is inflected only for subject agreement since it is intransitive. It cannot take an external agent in most cases, like the adjectival passive in English. Since the adjectival passive in Inuktitut is quite different than the verbal passive, and since the differences in level of formation that hold in English do not hold in Inuktitut, we will not be concerned with the adjectival passive in the remainder of this section of the paper.

With this brief summary of Inuktitut passive structure, we will now move to the acquisition data.

Inuktitut Acquisition Data

Data discussed in this paper are taken from videotapes of naturalistic communication situations between 3 monolingual Inuit children and various friends and family members. These data were collected in a small Inuit settlement on the west coast of Ungava Bay in northern Quebec. Approximately four hours of data from each child were collected every month for nine months, and this study is based on about one quarter of that data. Data have all been entered on computer following the CHAT transcription conventions from the CHILDES project, and subsequent analysis was conducted using the CLAN programs (MacWhinney & Snow, 1990). Note that all Inuktitut data discussed here derive 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 rarity of passive structures in child English (Brown, 1973; Horgan, 1978), the high frequency of passives in child Inuktitut enables detailed analysis from production data alone.

The following subsections discuss age and frequency of use, productivity, and use of advanced forms including full and experiential passives.

Age and Frequency of Use

Data concerning age and frequency of use of passive in our Inuktitut data sample is summarized in Table 1:

---

12 The -sima- morpheme forms the adjectival passive construction with a restricted set of verbs which seems to have to do with either the unaccusative properties of the verbs, or with their status as to degree of affectedness. This morpheme affixed to unergative and fully transitive verbs seems to not give passive meaning, but rather only perfective meaning. The details of this tendency remain to be worked out through further field work.
TABLE 1: *Summary of passive data from Inuktitut*

<table>
<thead>
<tr>
<th>Subject</th>
<th>Age</th>
<th>Hours of data</th>
<th>Total number of passives used</th>
<th>Number of passives used per hour</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>Mae</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>

It is immediately clear from Table 1 that Inuit children use passives at a very early age with relatively high frequency. For sake of comparison, Table 2 summarizes data on use of passives in several languages.

TABLE 2: *Age and frequency of use of passives crosslinguistically*

<table>
<thead>
<tr>
<th>Language</th>
<th>Age</th>
<th>Hours of data</th>
<th>Total number of passives used</th>
<th>Number of passives used per hour</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>English</em> (Adam, Eve, Sarah &amp; Allison) (Pinker et al., 1987)</td>
<td>1;5 - 5;1</td>
<td>293</td>
<td>116</td>
<td>0.4</td>
</tr>
<tr>
<td><em>K'iche'</em> (Pye &amp; Quixtan Poz, 1988)</td>
<td>2;1 - 3;10</td>
<td>60</td>
<td>186</td>
<td>3.0</td>
</tr>
<tr>
<td><em>Sesotho</em> (Demuth, 1990)</td>
<td>2;1 - 4;1</td>
<td>84</td>
<td>139</td>
<td>1.7</td>
</tr>
<tr>
<td><em>Inuktitut</em></td>
<td>2;0 - 3;6</td>
<td>33.7</td>
<td>124</td>
<td>3.7</td>
</tr>
</tbody>
</table>

The age of the Inuit subjects in Table 2 ranges between 2;0 and 3;6 - well below the 4;0 acquisition level cited for English — yet 124 passives are evidenced. If passive production is broken down by age in English and Inuktitut, only 12 of the passives in English occur in the 113 hours of tape taken before age 3;1 (Demuth, 1990:70), whereas in 23.7 hours of tape in Inuktitut before age 3;1 there are 93 passives. In addition, Inuit children use passives much more frequently on a per hour basis than do children from other languages in which passive acquisition has been reported on so far.

Calculations based on number of passives used per hour are limited by individual differences in the number or utterances, or the number of utterances containing a verb, produced per hour. Preliminary calculations, for data from Juupi, based on the number of passives per verbal utterance (containing a verb, including imperatives but excluding copulas *u* and *it* and appositional structures) are as follows:

**Table 3: Frequency of use of passives per utterance in Inuktitut**

<table>
<thead>
<tr>
<th>Age</th>
<th>2;0</th>
<th>2;5</th>
<th>2;9</th>
<th>Adult input</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of utterances</td>
<td>47</td>
<td>100</td>
<td>75</td>
<td>270</td>
</tr>
<tr>
<td>No. % of passives</td>
<td>2/4.3</td>
<td>10/10</td>
<td>12/16</td>
<td>23/8.5</td>
</tr>
</tbody>
</table>
Demuth’s (1990) calculations for passive use among Sesotho children in the same age range show a percentage use of between 0. 4% and 1. 0%. She also shows a 6% rate of passive usage in adult caregiver speech.

<table>
<thead>
<tr>
<th>Age</th>
<th>2;1 - 2;6</th>
<th>2;7 - 3;2</th>
<th>3;9 - 4;1</th>
<th>Adult input</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of utterances</td>
<td>4629</td>
<td>6466</td>
<td>3123</td>
<td>386</td>
</tr>
<tr>
<td>No. /% of passives</td>
<td>17/0.4</td>
<td>60/0.9</td>
<td>62/2.0</td>
<td>23/6.0</td>
</tr>
</tbody>
</table>

The calculations for Inuktitut are based on only a small number of utterances and thus are limited in their descriptive power. Nevertheless, the trend to frequent usage of passive structures is clearly indicated.

Greenlandic

One might expect that, due to the family relationship and similarity in structure between Inuktitut and Greenlandic. The relevant data is shown in (15).

(15) Greenlandic Data

a. no examples of -jau- passive by 5;2 (Fortescue & Lennert Olsen, 1992)
b. early use of -tit- 'get' passive (Fortescue p. c.)

Fortescue & Lennert Olsen (1992) report that not a single example of the -jau-passive structure appears in their data from four West Greenlandic speaking children aged 2;2 to 5;2. This appears to be problematic since West Greenlandic is a very close relative to Inuktitut. However, Michael Fortescue (p. c.) reports that the get passive construction with causative morpheme -tit-used reflexively does appear very early in their data. This form is increasingly replacing the traditional passive construction, equivalent to the -jau-construction in Inuktitut, among young West Greenlandic speakers today. Thus the apparent conflict is not substantiated.

"Basic" Passives

The majority of passives in the data are of the basic form using action verbs and without agentive phrases. Some typical examples are shown in (17). Note here that the surface subject is often missing, probably due to the pervasiveness of prodrop in Inuktitut.

(16) Basic Verbal Passives

a. Kunittaugumanngi.
   kunik-jau-guma-ngit
   kiss-PASS-want-NEG
   ‘(I) don’t want to be kissed.’ (Juupi 2;2.12)

b. Una piiitäujuq.
   una piiir-jau-juq
   this. one remove-PASS-PAR. 3sS
   ‘This one was taken off.’ (Mae 2;6.26)
c. *Paisikuura sukkualangajuq.*

paisikuug-ga sukkua-jau-langa-juq
bicycle-ABS. 1Ssg break-PASS-FUT-PAR. 3sS
'My bicycle will be broken (by someone)!' 
(Suusi 3:5.15)

In the next sections, we will show that the passive in Inuktut child language is productive, and that it is also used in seemingly more complex forms — full passives and experiential verbs.

**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 analyzed 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 examples from the data of obvious productivity will add credence to this intuition.

One usual proof for productivity of a form 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 Inuktut, the passive morpheme has two allomorphs: -jau- after vowels and -tau- after consonants. The verbal base tikit- `to arrive' ends in a consonant so should take the -tau-allomorph. However in the example in (18) the -jau- allomorph is used.

(17) Incorrect Allomorph

a. *Tikijauniarqu aluuraalu.* (should be tikitauniarquq)
tikit-jau-niq-qq aluu-aluk
arrive-PASS-FUT-IND. 3sS white. person-EMPH
'The white person will be brought (something).'
(Juupi 2;9.5)

A second piece of evidence concerning productivity is use of the passive with clearly incorrect forms. Relevant examples from Inuktut data are found in (19). In (19a), Juupi says *taartaulirtunga* `something is in my way', 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 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 correct way to express what he is trying to say. Example (19b) shows a grammatical error on Juupi's part. The passive morpheme in Inuktut will only incorporate into verb stems. In (19b), however, Juupi is trying to passivize a noun without having first incorporated it into a verb. He also has incorrectly switched the ordering between the causative and passive morphemes.

(18) Ungrammatical Use

a. *Taartaulirtunga.*
taaq-jau-liq-junga
darken-PASS-PRES-PAR. 1sS
'Something is in my way.'
(Juupi 2;6.5)
b. *Anaanaa, kiinajuatakaintiarnuqunga ... uumunga ... atjiiurutimut.
   anaanaa kiinajuag-jau-tit-niaq-vunga ... uumunga ... atjiiuruti-mut
   mother money-PASS-CAUS-FUT-IND. 1sS ... DEM. ALL ... camera-ALL. sg
   Trying to mean: ‘Mom, I'll be given some money ... by that one ... by the camera.’
   Should be: kiinajuatakaintiarnuqunga
                  kiinajuag-taag-tit-jau-niaq-vunga
                  money-acquire-CAUS-PASS-FUT-IND. 1sS
                  ‘... I’ll be given some money ...’ (Juupi 2;9.5)

Self-correction is a third proof illustrating productivity. In (20), Suusi incorrectly
omits the passive morpheme in a word, rendering it meaningless, then corrects herself by
inserting it in the next utterance.

(19) Incorrect Omission

*Aanniasiutsigavi, (corrected to aanniasiurtausigavit in next utterance)
aanniasiuq-si-gavit
check. up-PRES-COND.2sS
Trying to mean: ‘You are going for a medical check-up.’ (Suusi 3;4.13)

As a final piece of evidence, we note that at least one subject controls scope effects
with the passive in interaction with the causative. In (21a) Juupi has produced a word with
the causative morpheme outside the passive, whereas in (21b) he places the passive
morpheme outside the causative.

(20) Scope Effects

a. Nasanga pitautjara.
   nasaq-nga piir-jau-ti-jara
   hat-ABS. his remove-PASS-CAUS-PAR. 1sS
   ‘I got his hat off.’
   LIT: ‘I made his hat be taken off.’ (Juupi 2;0. 11)

b. Allanguartitaujunga.
   allanguaq-tit-jau-junga
   draw-CAUS-PASS-PAR. 1sS
   ‘Someone is letting me draw a picture.’
   LIT: ‘I am being made to draw a picture.’ (Juupi 2;1. 3)

Each of these four types of examples seems to point clearly to productivity of the passive
structure for these children.

"Advanced" Passive

Full Passive

As noted above, 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). However, in the data from Inuktitut, we find that one fifth of the passives used
(23/124) are produced with the equivalent of by-phrases. The sentences in (21) represent
examples of use of full passive.
(21) Full Passive

a. Apurtaulangagama haantaalunganut Saaliup,
apuq-jau-langa-gama haanta-aluk-nganut Saali-up
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)

b. Paniga am qukiutimuq am tuqutaugiaqanngituq.
panik-ga am qukiuti-mut am tuqut-jau-giaqaq-nngit-juq
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

Remember that we also noted above that English-speaking children tend to learn passive structures using actional verbs such as hit or kick earlier than those using experiential verbs such as see and understand, and that children aged 3;0 to 11;0 perform significantly better on actional than on experiential passive sentences (Gordon & Chafetz, 1990; Maratsos, Fox, Becker & Chalkley, 1985; Sudhalter & Braine, 1985). Although it is certainly clear that most of the verbs used in 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. Some of these are given in (22):

(22) Passive with Experiential Verbs

a. Atjiliurtaugumanngitunga.
attjiliuq-jau-guma-nngit-junga
film-PASS-want-NEG-PAR. 1sS
‘I do not want to be photographed.’

b. Taqajauluta.
taqai-jau-luta
tire-PASS-CTM. 1pS
‘(Something) will make us worn out.’
LIT: ‘We will be tired (tire-ed).’

Summary

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 passive occur as early as 2;0, they appear in both short and full forms, and with both action and experiential forms. Thus, they clearly do not conform to the standard conclusions about passive acquisition in Indo-European languages, but rather group with recent findings for other language types as cited earlier.

We will now move on to causative alternations with unaccusative verbs.
Unaccusatives Verbs

Structure of Unaccusative in English

In many languages there are typically assumed to be two types of intransitive verbs - unergative and unaccusative. This distinction was first discussed within the Relational Grammar framework, by Perlmutter 1978, and later in the GB framework by Burzio, 1981, 1986 (see also Rosen, 1984; Perlmutter & Postal, 1984; Levin & Massam, 1984; etc.). These two classes can be divided on bases both semantic and syntactic.

Unergative verbs have only one argument, which is base-generated in subject position. Since it receives both case and theta role in that position, it does not have to move at all from its D-structure position. This structure is shown in (23):

(23)

```
  IP
   /\     \
  NP   I'
   /     \
  I   VP
     \   
      \  
       \ V
```

Unaccusative verbs, on the other hand, are generally assumed to be base-generated with one argument which is in object position rather than in subject position. They assign a theta role to object position but not to subject position. The verb does not assign case to object position, however, so the argument must move to subject position to get case from INFL. This NP-movement to get case is the relevant aspect of the structure for our purposes today.

(24)

```
  IP
   /\     \
  NP_i I'
   /  \
   I  VP
      /  
     /   
    V   NP
      \  
       \ t_i
```

The various semantic and syntactic facts differentiating unergative verbs and unaccusative verbs are explained by the fact that their subjects are base-generated in different positions, and that the unaccusative subject is really a d-structure object.

In terms of semantics, unergative verbs are typically those with quite agentive subjects, including verbs of willed or volitional acts such as eat, jump, and talk; verbs of motion such as walk, bicycle, and fly; verbs of emotional expression such as smile, cry, and laugh; and verbs of involuntary bodily processes such as sleep, cough, and defecate.

Unaccusative verbs, on the other hand, are typically those with theme subjects, including verbs of change of stage such as open, break, and burn; verbs of manner of motion such as roll, bounce, and shake; verbs of inherently directed motion such as fall, arrive, and come; verbs of change of existence such as die, appear, and disappear; verbs of emission such as bleed, erupt, and stink; verbs of aspect such as begin, finish, and continue; and adjectival predicates such as dark, good, and tasty.
(25) **Semantic Classes of Unergative Verbs**
   a. willed or volitional acts: *eat, jump, talk*
   b. motion: *walk, bicycle, fly*
   c. emotional expression: *smile, cry, laugh*
   d. involuntary bodily processes: *sleep, cough, defecate*

(26) **Semantic Classes of Unaccusative Verbs**
   a. change of state: *open, break, burn*
   b. manner of motion: *roll, bounce, shake*
   c. inherently directed motion: *fall, arrive, come*
   d. change of existence: *die, appear, disappear*
   e. emission: *bleed, erupt, stink*
   f. aspect: *begin, finish, continue*
   g. adjectival predicates: *dark, good, tasty*

In terms of syntax, there are also a variety of indications of the two classes of verbs, though these tend to vary across languages. Only the most common are listed here, which will be addressed later in this paper.

(27) **Syntactic Diagnostics of Unaccusative Verbs**
   a. auxiliary choice (*be* for unaccusatives; *have* for unergatives)
      (Italian, French, Dutch)
   b. formation of adjectival passives (English)
   c. potential causative alternation

Perhaps the most consistent and easily distinguished diagnostic is the ability of certain unaccusative verbs, though not all, to form lexical causatives, as shown by the examples in (28):

(28) **Lexical Causatives**
   a. The dinner burned.
      John burned the dinner.

   b. The ball rolled.
      Mary rolled the ball.

The exact verbs which allow lexical causatives are not necessarily the same across languages, but the phenomenon seems consistent in those languages reported on to date.

We move now to the acquisition data concerning unaccusative verbs, focussing on the acquisition of causative alternations permitted by unaccusative verbs.

*English Acquisition Data*

In their article, B&W claim that children do not learn the structural difference between unergative and unaccusative verbs until at least age 4 since the principle governing a-chain formation does not mature until that age. Without being able to form a-chains, children should not be able to conceive of the appropriate structural representation of unaccusatives since they will not be able to process the required NP-movement. Therefore they will initially have exactly the same representation for unergatives and unaccusatives, assuming that the subjects of both are d-structure subjects.

B&W find evidence to support such a claim in facts, primarily reported by Bowerman 1982, concerning the causative alternation possible with a certain subset of
unaccusative verbs. Specifically, they note that this causative alternation structure is overgeneralized to unergative verbs. Since children younger than 4, presumably in absence of the principle governing a-chain formation, have the same representation for unergatives and unaccusatives, they would assume from the input that all intransitives can form lexical causatives. Therefore one would expect to see novel formations of causatives of unergatives prior to age 4, sharply terminating shortly after the principle governing a-chain formation matures and children recognize the difference between the structural representations of unergatives and unaccusatives. Exactly this type of data is presented in Bowerman 1982, including sentences such as those in (29).

(29)  **Overgeneralized Unergative Lexical Causatives**

a. I wanta swim that.
b. Do you want to come watch the mans sing their guitars?
c. Drink me.

As B&W predict, there are almost no examples of such overgeneralizations after the age of 4 - the presumed age of maturation of the principle governing a-chain formation. Even in English, however, several problems are apparent with using Bowerman’s data as support for maturation of this principle. Some of these are listed in (30).

(30)  **Difficulties**

a. less than 20% of novel causative alternations derive from unergative verbs
b. maturation cannot explain why non-ergative novel causatives would cease
c. maturation cannot explain U-shaped pattern of novel causative alternations
d. SLA individuals also produce novel causative alternations deriving from unergatives

First, less than 20% of the novel causative alternations cited by Bowerman derive from unergative verbs. While it is not surprising that other types of verbs undergo novel lexical causativization, one might expect the proportions to be somewhat more balanced. Second, a maturation explanation does not explain why novel causatives with other verb types would stop. This is particularly relevant in terms of such overgeneralization with unaccusatives which do not permit lexical causatives in adult language. Third, maturation does not explain the U-shaped development of this phenomenon. One would expect novel causatives throughout the pre-maturation period. Finally, SLA individuals also typically overgeneralize lexical causatives to unergative verbs, and this certainly could not be explained by maturation.

With these facts and difficulties in mind, then, let us now turn to the representation of unaccusatives in Inuktitut.

*Structure of Unaccusatives in Inuktitut*

A large class of verbs in Inuktitut exhibit the semantic characteristics of unaccusative verbs, including having theme subjects and permitting lexical causatives. Some typical examples include those represented in (31) and (32).

(31)  **Typical Unaccusative Verbs**

a. *Puvirtajuq qaartuq.*
   puvirtajuq qaaq-juq
   balloon burst-PAR, 3sS
   ‘The balloon burst.’
b. \textit{Jaaniup puvirtujuq qaartanga}.
   Jaani-up puvirtajuq qaaq-janga.
   Johnny-ERGsg balloon burst-PAR. 3sS. 3sO
   ‘Johnny burst the balloon.’

(32) a. \textit{Jaani tuqujuq}.
   Jaani tuqu-juq
   Johnny die-PAR. 3sS
   ‘Johnny died.’

b. \textit{Aaniup Jaani tuqutanga}.
   Aani-up Jaani tuqu-janga
   Annie-ERGsg Johnny die-PAR. 3sS. 3sO
   ‘Annie killed Johnny.’

Syntactically, it is reasonable to say that these verbs have the same form in Inuktitut as in English. The subject is base-generated in object position, and subsequently moves to get case, as shown in the tree in (33).

(33) \[
\begin{array}{c}
\text{IP} \\
\text{NP} \quad \text{I'} \\
\quad \text{VP} \quad \text{I} \\
\quad \text{NP} \quad \text{V} \\
\quad \quad \quad \quad \quad \text{I}_1
\end{array}
\]

A complete range of syntactic diagnostics for unaccusativity in Inuktitut remain to be determined conclusively. The most promising so far is the possibility of formation of adjectival passive with \textit{-sima-}. Unaccusative verbs yield an adjectival passive reading with \textit{-sima-}, whereas unergative verbs yield a perfective reading. Examples are shown in (34) and (35).

(34) Unaccusatives with \textit{-sima-}: Adjectival Passive

a. \textit{Itsivik tatasimajuq}.
   itsivik tata-sima-juq
   box fill-SIMA-PAR. 3sS
   ‘The box is full.’
   *‘The box filled something.’

b. \textit{Itsivautaq siqumisimajuq sanikkuvimmiituq}.
   itsivautaq siqumi-SIMA-juq sanikkuvik-mi-it-juq
   chair break-SIMA-PAR. 3sS garbage-LOC-be-PAR. 3sS
   ‘The broken chair is in the garbage.’
   *‘The chair broke something in the garbage.’
(35) **Unergatives with -simaq: Agentive Perfective**

   Miaji nakuq-tsaj-sima-juq  
   Mary appreciate-INTR-SIMA-PAR. 3sS  
   ‘Mary appreciates someone.’
   *‘Mary is appreciated.’*

b. *Siuitimmiutaq annirususimajujq katattuviniq.*
   siuitimmiutaq anniq-gusuk-sima-juq katak-juq-viniq  
   earring cherish-INTR-SIMA-PAR. 3sS fall-PAR. 3sS-PAST  
   ‘The earring cherished and fell on the floor.’
   *‘The cherished earring fell on the floor.’*

**Inuktitut Acquisition Data**

To assess acquisition of the structure of unaccusative verbs in Inuktitut, the same data as in the passive study were examined. The three children collectively produced at least one instance each of about 280 different verb roots, and approximately 2,750 tokens in total. Of the verb types, at least 60 are clearly unaccusative. Of the unaccusatives permitting lexical causatives, they were produced in at least one instance each for at least 38 verb types. Since the classification of individual intransitive verbs as unergative or unaccusative is sometimes quite fuzzy, and since the syntactic diagnostics are still being investigated, a summary of total number of each verb type used will not be presented here. Some typical examples of unaccusatives are in (36) and (37), each with intransitive and lexical causative forms, and -simaq- and antipassive forms where available. Some typical unergatives are in (38).

(36) a. *Aanniniarmat.*
   aanniq-niaq-mat  
   hurt-FUT-CAUS. 3sS  
   ‘He's going to hurt.’

b. *Aannilaauruk nukaapiik.*
   aanniq-lauq-guk nukak-apik  
   hurt-POL-IMP. 2sS. 3sO sister-DIMIN  
   ‘Hurt him, sister.’
   *(Mae 2;6. 2)*

(37) a. *Aarqirataakainnatu.*
   aarqiq-rataaq-kainnaq-juq  
   fix-PAST-PAST-PAR. 3sS  
   ‘It got fixed a little while ago.’

b. *Anaanangata Juupiup aarqirataakainnatanga.*
   anaana-ngata Juupi-up aarqiq-rataaq-kainnaq-janga  
   mother-ERG. 3Ssg Juupi-ERG. sg fix-PAST-PAST-PAR. 3sS. 3sO  
   ‘Juupi’s mom fixed this just a little while ago.’

c. *Mirquluk qitinnguutiup pingani aarqisuijuvinil!*  
   Mirquluk qitinnguuti-up pinganik aarqisuk-i-juq-viniq  
   Mirquluk Christmas-ERG. sg thing-MOD. 3Ssg fix-ANTP-PAR. 3sS-PAST  
   ‘Mirquluk fixed a Christmas decoration!’  
   *(Juupi 2;9. 5)*
d. *Pivu aarqisimanngitu, ilai?*
pivut aarqiq-sima-nagit-juq ilai
thing-ABS. 1Psg fix-SIMA-not-PAR. 3sS right
‘Ours isn’t fixed, right?’

(38) Typical Unergatives

a. *Qiatsaruarma piaraapiga.*
qia-tsaruq-mmat piara-apik-ga
cry-might-CAUS. 3sS baby-DIM-ABS. 1Ssg
‘She might cry, my little baby.’

b. *Sinisijugut!*
sinik-si-jugut
sleep-PRES-PAR. 1pS
‘We are going to sleep!’

It is evident from these data that these children control the causative alternation with at least some verbs. However, in line with the Maturation Hypothesis, we are actually interested in whether children are able to differentiate between the representations of unergative and unaccusative verbs.

Evidence for Similar Analysis of Unergatives and Unaccusatives

Two types of data from Inuktitut child language support the claim that there may be such a difficulty. First, there are a few examples of overgeneralizations with unergative verbs.

(39) Overgeneralization of Causative Alternation with Unergatives

a. *?Kutsuniaraki.*
kutsuk-niaq-gakkit
check.gum-FUT-CAUS.1Ss.2sO
‘I will chew you after.’
(“offering to give R gum as a reward if R moves the bed”) (Suusi 3;3. 13)

b. *?Niuviritlaurlagit?*
niuviq-giaq-lauq-lagit
buy-begin-POL-IMP. 1Ss
‘Want me to go buy you?’
(acting as cashier in a pretend store) (Suusi 3;5. 15)

Second, there are some errors in use of *-sima* which, as we stated previously, has an adjectival passive reading only with unaccusatives, but an agentive perfective reading with unergatives. Here the children are trying to force a passive reading with unergative verbs, and thus evidence a confusion in the distinction between verb types.

(40) Overgeneralization of *-sima* Adjectival Passive with Unergatives

a. *Aninnguasimaju.*
aninguaq-sima-juq
play-SIMA-PAR. 3Ss
‘He had gone outside to play.’
(referring to someone still playing outside) (Mae 2;6. 3)
b. *Igirisimajuq?  
igiq-sima-juq  
throw. away-SIMA-PAR. 3S  
‘Did it throw away?’  
(looking for the container for his jack knife)  
(Igitaviniq?  
igiq-jaq-viniq  
throw. away-PP-PAST  
‘Was it thrown away?’  
(Juipi 2;9. 5)

Two problems are evident here, however. First, there is only a small number of utterances showing this tendency. If it were true that children do not differentiate between unergatives and unaccusatives, and since they are quite prolific in their production of lexical causatives of unaccusatives, we would expect more examples of overgeneralization to unergatives. Secondly, as in English, these types of errors do not occur solely in terms of unergatives being treated as unaccusatives, as seen in the next section.

Evidence for General Errors in Transitivity

A number of errors are present in the data resulting from causative overgeneralization with unaccusative verbs which do not normally permit a lexical causative, as in (41), as well as several other errors resulting from mistaken representations of argument structure, as in (42) through (46).

(41) Causative Overgeneralization Errors with Unaccusatives

a. *Anirqangualavuuq?  
anirqaq-nguaq-lavut  
go. home-pretend-IMP.1p.3pO  
‘Shall we pretend to go them home?’  
(proposes taking home groceries R has purchased at S’s pretend store)  
(Anirqaujinnguasarlavuuq?  
anirqaq-nguaq-saq-lavut  
go.home-pretend-CSB  
IMP.1s.3pO  
‘Let’s pretend to take them home?’  
(Suusi 3;5.15)

b. *Ijukkalagu?  
ijukka-lagu  
fall-IMP. 1s.3o  
‘Shall I fall it?’  
(proposes pushing a stuffed animal down the stairs)  
(Ijukkatillagu?  
ijukka-tit-lagu  
fall-CSV-IMP. 1s.3o  
‘I will make it fall.’  
(Suusi 3;1. 15)

(42) Intransitive in place of Transitive

Suupuujuulluit.  
supujuuq-luit  
Coleman. stove-ICM. 2s  
(= blow-ICM.2s)  
‘Use your Coleman stove.’ (= blow)  
(telling F to blow into back portion of video game cartridge to make it work)  
(Supuurlugu.  
supuuq-lugu  
blow-Xs.3o  
‘Blow it.’  
(Suusi 3;5.15)
(43) **Transitive in place of Intransitive**

*Iruktukainnaqara.*

irqutuq-kainnaq-vara
wash-PAST-IND. 1sS. 3sO
‘I washed her.’

*Iruktukainnaquq.*

irqutuq-kainnaq-vuq
wash-PAST-IND. 3sS
‘She washed.’

(commenting on woman in mouthwash commercial who has just saved her work partnership by using mouthwash to get rid of her bad breath)

(Juupi 2;9.5)

(44) **Antipassive Morpheme in Ergative Construction**

*Manna aitsikainnatara?*

manna ai-tsi-kainnaq-jara
DEM. ABS get-ANTP-PAST-PAR.
1sS. 3sO
‘Did I go get this?’

*Manna aikainnatara?*

manna ai-kainnaq-jara
DEM. ABS get-PAST-PAR.
1sS. 3sO

(Juupi 2;9.5)

(45) **No Antipassive Morpheme in Antipassive Construction**

*Qininitarmi aitsikainnatungali.*

qininitaq-mik ai-kainnaq-junga-li
scarf-MOD. sg get-PAST-PAR. 1sS-and
‘I want to get a scarf.’

*Qininitarmi aitsikainnatungali.*

qininitaq-mik ai-tsi-kainnaq junga-li
scarf-MODsg.get-ANTP PAST-PAR. 1sS-and

(Mae 3;1.27)

(46) **Mismatch between Case Marking and Verbal Inflection**

*livau pialua aturtu.*

livau-up pi-aluk-nga atuq-juq
Eva-ERG. sg thing-EMPH-ABS. 3Ssg use-PAR. 3sS
‘Eva’s thing is using.’

(Juupi 2;1. 3)

*livau pialuanik aturtu.* (antipassive)

livau-up pi-aluk-nganik atuq-janga
Eva-ERG. sg thing-EMPH-ABS. 3Ssg use-PAR. 3sS. 3sO

*livau pialua aturtanga.* (ergative)

livu-up pi-aluk-nga atuq-janga
Eva-ERG. sg thing-EMPH-ABS. 3Ssg use-PAR. 3sS. 3sO
‘He’s using Eva’s thing.’

These examples show that perhaps the difficulty is with mechanisms of transitivity in general rather than with causative alternations alone.

**Summary**

In summary, then, we have seen the following in terms of unaccusative acquisition data. First, there is a distinction in Inuktitut between unergative and unaccusative verbs, though the exact boundaries remain to be clarified. Second, the Inuit children reported on herein control the causative alternation for many unaccusative verbs. Third, there are examples of overgeneralization of the causative alternation to both unergative and unaccusative verbs which do not normally permit this alternation. Fourth, there is also a considerable amount
of data showing errors in transitivity alternations unrelated to causativization, as well as use of unaccusative intransitives in place of causatives. This data leads us to question the maturation of the principle governing a-chain formation hypothesis as an explanation for said difficulties, and to search for a broader answer which could cover a variety of other difficulties with the representation of transitivity as well.

Implications and Explanations of Crosslinguistic Differences

The variety of data seen so far, both in problems with interpretation of English data and in clear differences in Inuktitut data, forces us to reject the Maturation Hypothesis as a plausible explanation of these facts. In rejecting the Maturation Hypothesis as a plausible and satisfactory explanation of the facts of acquisition of NP-movement in Inuktitut, we are led back to something more consistent with the Continuity Hypothesis made explicit in Pinker (1984):

(47) Continuity Hypothesis (Pinker, 1984)

All grammatical principles are available to the child from birth and remain constant throughout development. Stages in utilization of these principles may be regulated by learning or triggering.

Continuity assumes that all grammatical principles are available to the child from birth and that their presence and accessibility is continuous over the course of language development. The timing of the acquisition of various structures including the verbal passive and the unaccusative-causative alternation, then, is influenced by language-specific factors. In Sesotho, for example, early acquisition of verbal passive cooccurs with greater predominancy of passive than in English, in both 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.

It would be most desirable, then, to find similar language-specific influences for early passive acquisition in Inuktitut. Some possibilities include the effect of adult input, and prevalence of NP-movement inherent in the ergative structure of Inuktitut.

Language-specific Influences on Acquisition of NP-movement Structures in Inuktitut

Adult Input

One possible path to explaining a difference in time of acquisition of a certain structure across languages is through looking at the input each language group receives. If the relevant input is significantly more prolific in one language than in another, it could well affect the time of acquisition. There is no data on use of causative alternations of unaccusatives in English input. In addition, it is difficult to conceptualize what effect difference in input could have on overgeneralization of the causative alternation to unergative verbs. For these reasons we will not address input with regard to unaccusatives in Inuktitut.

It is somewhat easier, however, to conceptualize the effect prolific use of passive structures in input could have on time of acquisition of the passive by children. In fact, passive structures are relatively frequent in adult input in Inuktitut. This contrasts with English. A summary of input data from two studies in English and our own in Inuktitut is given in Table 3.13

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13 The numbers for English include both adjectival and verbal passives, while the numbers for Inuktitut include -jau- passives only.
Table 5: Summary of adult use of passives

<table>
<thead>
<tr>
<th>Language</th>
<th>Hours of data</th>
<th>Total number of passives used</th>
<th>Total number of full passives used</th>
<th>Number of passives per hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>a. 293</td>
<td>313</td>
<td>4</td>
<td>1.1</td>
</tr>
<tr>
<td>(Gordon &amp; Chafetz, 1990; Adam, Eve, &amp; Sarah)</td>
<td>b. 97.6</td>
<td>313</td>
<td>4</td>
<td>3.2</td>
</tr>
<tr>
<td>English</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Maratsos, 1985)</td>
<td>37.5</td>
<td>101</td>
<td>1</td>
<td>2.7</td>
</tr>
<tr>
<td>Inuktitut</td>
<td>26.7</td>
<td>238</td>
<td>35</td>
<td>8.9</td>
</tr>
</tbody>
</table>

The Inuit adults, then, use passives, at even the most conservative estimate, at least 2.8 times more frequently per hour than do English-speaking adults in these studies. In addition, numbers for full passive use are far higher in Inuktitut input than in English. It is quite interesting, then, that higher frequency of passive use in input in Inuktitut cooccurs with higher frequency and earlier acquisition of passive in Inuit children. While it is unlikely that this represents a causal link, it is likely passive figures are high for both Inuit children and Inuit adults as the common result of some other phenomenon.

Language Structure

One possible reason that both adults and children are using the passive so frequently, and that Inuit children experience no more difficulty with causative alternations than with transitivity issues in general likely lies in the syntax and morphology of Inuktitut. Recall that Inuktitut is an ergative language. Most current GB analyses of ergativity (e.g. Bittner, 1992; Bok-Bennema, 1991; Campana, 1992; Johns, 1992; Murasugi, 1992) 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. In a transitivise structure, then, the object must move to subject position (SPEC of IP) to get case from INFL while the subject remains in its base-generated position in SPEC of VP and gets assigned (usually genitive) case by a special mechanism, the details of which vary across analyses. If this is true, the NP-movement found in passives and unaccusatives 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 in which such movement is rare, being restricted to passives, unaccusatives, and raising constructions. This difference is shown in (48) versus (49).

(48) **Accusative Structure**

a. verb typically assigns case to object position
b. transitive D-structure objects do not NP-move to get case
c. D-structure objects only move in passives, unaccusatives, raising structures

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14 Note that the figures cited for passive use in input given in Gordon & Chafetz (1990) do not include the number of hours within which these passives occur. However, references to the same data set in Pinker, Lebeaux & Frost (1987) note that these three children were taped for a total of 293 hours. In this chart we present two sets of figures: set (a) assumes input throughout the entire data set (293 hours); set (b) assumes input throughout a conservative estimate of only one third of the data set (97.6 hours).
(49) **Ergative Structure**

a. verb does not assign case to object position (Bittner, 1992; Bok-Bennema, 1991)
b. transitive D-structure objects must NP-move to get case
c. D-structure objects in passives and unaccusatives also move to get case

It is no wonder, then, that Inuit children have little difficulty with NP-movement structures — without them, their vocabulary would be restricted to nouns and unergative verbs! The structure of ergative languages itself, then, poses a major problem for supporting the Maturation Hypothesis through late acquisition of the principle governing a-chain formation in NP-movement.

**Conclusion**

In this paper we have presented data that shows surprisingly early acquisition of both simple and complex passive structures by Inuit children, and little difficulty with nor undue overgeneralization relevant to unaccusative structures. These observations are consistent with the Continuity Hypothesis (Pinker, 1984) of language acquisition and do not provide support for the Maturation Hypothesis (Borer & Wexler, 1987). Some possible reasons for such patterns in early Inuktitut include relatively high frequency of passive structures in adult input and the ergative structure of Inuktitut.

**References**


Résumé

Le fait que les structures passives soient acquises tardivement et que les causatifs lexicaux anglais soient rapidement l'objet de généralisations de la part de l'enfant est utilisé pour démontrer l'importance du processus de maturation en acquisition du langage (Borer & Wexler 1987). Cependant, les recherches portant sur plusieurs langues non-indoeuropéennes montrent que le passif est acquis relativement tôt, venant ainsi contredire l'idée de maturation; le temps nécessaire à l'acquisition du passif est quant à lui attribué à des propriétés typiques des langues concernées. Cet article présente des données de production naturelle et spontanée de la part de trois enfants inuits âgés de 2;0 à 2;6 ans qui montrent que l'hypothèse de maturation ne peut être maintenue sous sa forme actuelle. Selon les données de l'inuktitut, les structures passives sont maitrisées de manière productive dès l'âge de 2;0 et aucune relation de cause à effet n'existe entre la structure profonde des verbes intransitifs et la surgénéralisation des causatifs lexicaux. L'article affirme que la structure ergative de l'inuktitut peut rendre compte de ces faits de manière adéquate.