FIRST LANGUAGE ACQUISITION OF INUKTITUT

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Introduction

Though relatively little research has been done on the first language acquisition of Inuit-Aleut languages, it is an important field of study. Culturally it serves as documentation of the current state of a minority language undergoing change in the face of majority language intervention. Educationally, it provides an indication of normal levels of linguistic competence and process of normal language development. Linguistically, it offers insight into theoretical and developmental claims from the point of view of a poly synthetic language of morphophonological complexity.

This paper presents a preliminary report on a longitudinal study of language acquisition among Inuit children of Nouveau-Quebec. Section 1 enables readers from various backgrounds to become more acquainted with the task at hand by offering examples of data from various ages. Section 2 describes the details of the study. Section 3 and 4 focus on relevant questions to ask of the data from descriptive and explanatory viewpoints. Section 5 concludes the paper by considering various uses for the emerging data and results.

1. Background

Where does one begin when studying language acquisition? What is one looking for? How does one get from hours and hours of tape recordings of children speaking to some kind of picture of the acquisition process? Each group of acquisition researchers comes to this task with slightly different backgrounds, and thus each conceives of language and what is relevant about its development in children in slightly different ways: linguists may jump immediately to the morphology and syntax, educators may focus on the range of meanings expressed, psychologists may consider the processing limitations evident, and parents may think back to their own children's speech and how it changed over time. Each of these are excellent starting points for analysis, with the common feature between them being the data. Let us begin, then, by examining some data taken from tapes of Juupi, one of the subjects in the present study, and noting various aspects of his speech that emerge and change over an eight-month period. In (1) are some examples recorded at age 2; 1; 3:

(1) a. Una aataa.
   una aataa
   DEM dangerous (BW)
   'This is dangerous.'
b. Aanaunngima!
Aana u-nngit-mat
Anna-COP-NEG-3sS. CAUS
That is not Anna!

c. Ataata anilangajuu.
ataata ani-langa-juq
father go. out-FUT 3sS.PAR

Contrast those utterances with a few from age 2; 6; 5:

(2) a. Kinau nasaalungani?
Kina-up nasak aluk nganik
who-ERG.sg hat-big-3Ssg. SEC
Whose big hat?

b. Talasialu imaittumi atsaataurivunga.
Talasi-aluk imaittuq-mik arsaaq jau-givunga
Dallacy-big like.this-SEC.sg remove.by. force-PASS-also-1sS. IND
Big Dallacy, I also had one like this taken away from me by force.'

c. Uvvarumatuinnatu avunga.
uvva-guma-tuinnaq-juq-av-unga
wash-want-merely-3sS.PAR over.there-ALL
'It just needs washing over there.'

And then with a few from age 2; 9; 5:

(3) a. Ilinniariiqu inniavimmitualuit.
ilinniaq-jariiq-vut ilinniavik-mi-it-juq-aluk-it
learn-completed 3pS.Ø school-LOC.sg-COP-3sS. PAR-EMPH-ABS.sg
They are finished from school, the people who are at school.'

b. Naniiqattalaujivitaa uuminga atursunga?
nani-it-qattaq-lauju-vita uu-minga atuq-tsunga
where-COP-HABIT-PAST 1pS.INTDEM.here-SECuse-lsS.CONTM
'Where were we when I was using this?'

c. Una aniirtilunga ajjiliurinnikainnamiujukualu, ilai?
una aniir-tit-lunga ajjiliuq-gi-nni-kainnaq-mi-juq-kualuk ilai
DEM.here-ABS be.out-SR 1sS.INCONTM film
TRANS-PAST also-3sS.PAR-DIM really
When I was outside this pitiful person also filmed me, right?'

While it must be noted that these utterances are more typical of the upper range than the
standard level of Juupi's production abilities at each age, it is nevertheless clearly evident that
significant developments in his language abilities occur within the space of the eight months
illustrated here. His sentences clearly increase in length, each word contains more morphemes,
the relationships between words increases in sophistication, the affixes and word-building
processes become more complex.
With such data in hand, then the language acquisition researcher seeks to both describe the pattern of development across several children learning the same language, and to explain why this pattern occurs in exactly the way it does. The longitudinal study from which these data are taken is seeking to fulfill exactly these goals, and is described in the following section.

2. Details of the study

This study of Inuktitut language acquisition was undertaken in Quaqtaq and Kangirsuk, two Inuit settlements of population approximately 200 and 325 respectively, situated at 61 and 60 degrees north in Nouveau-Quebec, Canada. Inuktitut is the language of daily interaction in both home and business in both these settlements, and all children in the study came from homes in which Inuktitut is almost exclusively used among all family members.

In order to get a picture of the overall development of Inuktitut, this study focused on two groups of children over an extended period of time, with additional data available from a third group, collected for a related study. Group 1 is comprised of four children aged 2:0 to 2:10 at outset, 2 boys and 2 girls, all from Quaqtaq. They were taped every month from March to December of 1989, for a total of nine sessions and 36 hours of tape each. Group 2 is comprised of four children aged 3:9 to 4:6 at outset, 2 boys and 2 girls, one of each from each of Quaqtaq and Kangirsuk. They were taped every three to four months from March 1989 to February 1990, for a total of four sessions and 16 hours of tape each. Group 3 is comprised of data recorded and transcribed for a study of communicative interaction of Inuit children presented in Crago 1988. In this group are 4 children, those from group 2 at a younger age — 1:0 to 1:9 at outset. They were taped every months from June 1986 to July 1987, a total of 4 sessions and 20 hours of tape each. Details concerning ages of the children at each taping session are in Appendix L.

Data were collected by videotaping the children in naturalistic communication situations with their friends and families, primarily in their own homes. Each session comprised a total of about 4 hours of tape, recorded in 2 or 3 shorter blocks over a space of about 3 days. During the sessions children were requested to carry on naturally as if the researcher were not there, engaging in a variety of activities including playing dolls, fixing toy hondas, having baths, talking with mom, eating meals, and watching TV. For groups 1 and 2, effort was made to tape children at times and in situations when they would be most likely to be talking, and portions chosen for transcription tend to be those in which most substantial talking is going on since that is the focus of this study. A total of 200 hours of videotape was collected for groups 1 and 2, about half of which is currently being transcribed. Forty hours of transcribed date are available for group three.

All transcribed data from both this study and Crago (1988) is being entered into a computer database designed by the Child Language Data Exchange System (MacWhinney & Snow 1990) specifically for analysis of child language data, thus preserving it in a field-standardized format which is easy to work with for a variety of research purposes. A set of computer analysis programs is also available to be run on data in this format. An example of transcribed data is included in Appendix L. Data will eventually be donated to the Child Language Data Exchange System archives in order to enable free access by a wide range of child language researchers and others.

Having amassed some 140 hours of transcribed data set up in computer files, the task of describing and explaining acquisition in Inuktitut is now ready to be tackled.
3. Describing acquisition patterns

In describing language acquisition there are basics described for every language, such as questions, negation and tense, and there are structures described for individual languages depending on the characteristics of that particular language, such as gender in French, honorific forms in Japanese, and verb placement in German. In Inuktitut several aspects of structure stand out which are of particular interest. First and foremost, a high degree of polysynthesis affects almost all aspects of the language. This is crucial since there is virtually no previous research concerning the acquisition of polysynthetic languages (but see Fortescue 1985; Fortescue & Lennert Olsen 1989; Mithun 1990; Wilman 1988). Wilman (1988: 147) points out various areas to investigate in light of polysynthesis, including the relevance for Inuktitut of one-word and two-word stages of development defined for English, the effect of the holophrastic nature of Inuktitut syntagms, and the utilization of lexical flexibility afforded by polysynthetic structure. A second area of interest is the ergative case structure of Inuktitut, as compared to the nominative-accusative system predominant in the majority of the world's languages. Third, the extremely large repertoire of nominal and verbal inflections to be mastered presents a seemingly formidable task for the Inuk child. Word order, which has been a major focus of studies in English, is not very definitive for Inuktitut since it is so flexible and of negligible importance in the syntax.

One example of a common area of focus will serve to illustrate the descriptive approach. In three previous studies of Inuit child language the effect of polysynthesis was indirectly investigated by calculating the mean length of utterance (MLU) and assessing results as compared with those for age-similar English-speaking children. The MLU is a measure of language development originated by Roger Brown in his classic study of English acquisition (Brown 1973). It calculates the average number of morphemes per utterance over at least 100 consecutive utterances of the child. The theory is that as the child's language develops in complexity, his utterances will increase in number of morphemes up to an MLU of at least 4.0 (Bloom, Miller & Hood 1975). For English, each interval of 0.5 in MLU is correlated with a specific stage of development for the child's language, and with the acquisition of 14 grammatical morphemes such as plural, possessive and past tense highlighted in Brown's study. Thus MLU can be used to equate similar levels of linguistic development across children learning English, and has been used to varying degrees for other languages of similar structure. It is uncertain, however, whether it would be applicable in the same way for languages of polysynthetic structure like Inuktitut.

One issue is what counts as a morpheme in Inuktitut. Here, the fusional nature of particularly the inflectional affixes presents a problem since, as Fortescue (1985) discusses, it is difficult to determine whether these units represent for the child 2 or 3 separate abstract grammatical morphemes, or whether he has acquired them as one lexicalized unit. In studying the morphology of one Greenlandic boy aged 2;9, Fortescue discovered an MLU of almost 4.0 when assessing morphemes from a strictly grammatical viewpoint, and an MLU of slightly under 2.0 when taking fusion into account. The latter figure is much more in line with Brown's findings for English, leading Fortescue to conclude the necessity of adjusting for lexicalization when assessing Inuktitut acquisition. MLU data from the oldest child in Crago (1988), ranging from 1.3 at 1;9 to 2.5 at 2;9 corroborate his findings (Allen 1989).

A second issue is whether utterance length is really a good determinant of language complexity in a polysynthetic language. In his recent study of language use, Wilman (1988) found MLU values ranging between 3.117 and 5.394 for a group of 22 6-year-old Inuit children in Arctic Bay, NWT. This result is rather low compared to average MLUs of English-speaking children at the same age. At the same time, Wilman also notes that in the MLU range 3 to 5, the children in Brown's study were still in the process of acquiring some basic English grammatical morphemes, while the Inuit children in his own study at this MLU "produced a
remarkable range and variety of lexicon and grammatical constructs, often approaching adult-like mastery" (Wilman 1988:98). This seems to indicate that MLU values in Inuktitut may have different meanings than in English, and as such the MLU measure may be useful for comparison only among children learning the same language and not across children learning different languages. It also calls into question the factor of age and the part it plays in the assessment of MLU both within languages and crosslinguistically.

Both Fortescue (1985) and Wilman (1988) have the disadvantage of working with data from children of only one age. The present study will be able to provide a longitudinal perspective through the primary age range of Brown’s children, essentially replicating his study for Inuktitut in order to shed further light on this issue. It will also enable an in-depth look at the correlation between morphological development and stages of MLU in Inuktitut, assessing the development of some of the factors mentioned above.

4. Explaining acquisition patterns

In addition to describing patterns of language acquisition, researchers also try to explain why the patterns occur in exactly the way they do. In this pursuit one is usually guided by one's theory of what the significant factors in language learning are — pragmatics (what is most useful to learn), cognition (what concepts are most basic), grammar (what structures are easiest or most available), processing (what the brain can handle in the way it deals with language). The theory of Universal Grammar holds that we all possess within us a set of principles and parameters that apply to all languages in their similarities and variations. Children are presumed to be born with some form of this, if not all of it, and thus their acquisition is guided significantly by the relationship between the structure of their mother tongue and the various principles and parameters available to them through Universal Grammar. As such, we look at the relationships between language acquisition and linguistic theory to see if one can explain the other and vice versa. This is a relatively new way of looking at language acquisition, but research has already been done on a variety of topics including WH-questions as related to movement and trace theory (Stromswold 1988), verb incorporation as related to complex structures (Pye 1990), and null subjects as related to verb internal subject theory and distinction between functional and lexical categories (Hyams 1986; Pierce 1989).

In our own work on the relationship between acquisition and theory in Inuktitut, one of the areas we are investigating is noun incorporation. These are structures as shown in (4) through (8) in which the initial noun is incorporated into a verbal structure.

(4) Noun Incorporation, Jaaji, 2;5;9

a. Kuapaliangvuruu.
   kuapak-liaq-langa-vuguk
   coop-go. to-FUT-IND.1dS
   'Well go to the coop later.'

b. Iqaluguluuvit?
   iqaluk-guluk-u-vit
   fish-pitiful-be-INT.2sS
   'Are you a pitiful fish?'
c. Umiajuagaqgu
umiajuaq-qaq vugut
ship-have-IND.1pS
'We have a ship.'

(5) Noun Incorporation, Jaaji, 2;9;28
a. Imaittururumaviit?
imaittuq-tuq-guma-vit
this-kind-consume-want INT.2sS
Do you want some of this kind?
b. Paisikuuttaaqtu
bicycle-acquire-PAR.3sS
'He got himself a bicycle.'

(6) Noun Incorporation, Juupi, 2;1;3
a. Juupinngualiursunga
juupi-nnguaq-liuq-tsunga
jobie-imitation-make-CONTM.1sS
'm drawing a picture of Juupi.'
b. Aanaunngima!
aana-u-ngit-mat
anna-be-NEG-CAUS .3 sS
'That is not Anna!'

(7) Noun Incorporation, Juupi, 2;6;5
a. Kaligialualuulurtu, ilai?
kaligaq-lik-aluk-u-lauq-juqilai
sled-have-big-be-PAST-PAR.3sS right,
'It had a hitch on it, right?'
b. Imaittugattilugu?
imaittuq-qaq-fit-lugu
this.kind-have-SW.RF-IMC.3s0
'Was it one like this?'

(8) Noun Incorporation, Juupi, 2;9;5
a. Sauniapirlaalu aipparikainnata
sauniq apik-laaluk aippaq-qi-kainnaq-janga
namesake-DIM-big companion-have-as-PAST PAR.3sS.3s0
The big saunik was with him.'

Noun incorporation seems to be acquired quite early in Inuktitut considering its complex
structure according to either syntactic (Baker 1988) or lexical (DiSciullo & Williams 1989)
accounts. Are there structural reasons which influence this early acquisition? In Allen & Crago
1989 we have claimed that several possibilities exist. First, in a cross-linguistic comparison of Japanese, Turkish, Polish and Hungarian, it has been noted that children exhibit "preferences to keep grammatical markers of aspect, tense, and person close to the verb" (Slobin 1985:12). In Inuktitut an incorporated noun does not disturb the closeness between the verb and its relevant grammatical markers since it appears on the side of the verb from the other affixes. Second, it has been shown that morphemes at word boundaries are more salient to children than those inside the word. In inuktitut the incorporated noun is on the very edge of the word, thus rendering it quite salient. Third, children have a preference for analytic over synthetic ways of expressing the same idea (Slobin 1985), which might appear to be a problem for noun incorporation since it would predict that children would first learn unincorporated ways of saying a sentence and then incorporated ways. However, noun incorporation in Inuktitut is obligatory or lexically governed in that a given verb either must incorporate or else not incorporate at all. Also, according to Sadock 1986, the incorporated form is usually the most idiomatic and least complex, and "it is not the case that speakers... incorporate for a purpose but rather that they REFRAIN from incorporating for purpose (Sadock 1986: 21)". Thus the lexically-governed nature of incorporating verbs removes one more barrier to early acquisition. For these three structural reasons, then, it is not too surprising that noun incorporation begins to appear early in Inuktitut.

5. Conclusion

The past several pages have presented details of a study of Inuktitut language acquisition, some emerging data, and a discussion of what one might begin to do with this data in both describing and explaining it. However all of this research is to naught without some focus for its practical and theoretical use. This final section addresses the relevance of the study presented to various fields.

The first application is a cultural one. The situation today in Nouveau Qudbec is almost unique among Inuit communities in that Inuktitut is still the language of daily interaction in homes, community affairs, and business, among people of all ages. Thus it presents a unique opportunity to record children's language now and to serve as documentation of the current state of a minority language undergoing change in the face of majority language intervention.

The second reason has to do with education. Research on acquisition provides a pattern for the process of normal language development among Inuit children and documents normal levels of linguistic competence. Since the children in the present study are not yet school-aged, this study cannot directly affect school curriculum. However it can give the hulk educator background knowledge of language acquisition processes in her own language to advantage in at least two areas: she will no longer have to rely on data from English or other languages, guessing or hoping that the patterns in that language are the same as for her own, and she will be able to apply directly her own experience in hearing language from her own children to what she is learning academically. The Kativik School Board, serving the Inuit of Nouveau Quábec, is the major source of funding for the present study, and results and informations derived from this study will be fed back into the Board's teacher training system through workshops and courses for Inuit teachers.

A third application of this work is in the field of language disorders. A knowledge of language patterns in the narrative language is necessary to the work of speech pathologists, special education teachers, and other dealing with delayed or abnormal language development. It has been shown in a wide variety of situations that testing materials must be culturally and linguistically appropriate in order to yield relevant results, and this task is greatly eased by knowledge of natives languages development.
Finally, the fields of acquisition and linguistic theory have much to gain from such a study. The highly polysynthetic nature of Inuktitut offers a unique opportunity for testing theories of linguistics and of the universality of language learning patterns. The amount of research currently in existence concerning the acquisition of polysynthetic languages is extremely small, so new research such as this is potentially quite powerful.

While it is highly unlikely that one small study such as that reported in this paper can adequately meet or even scratch the surface of any of these goals, it is a step in right direction and continues the task of paving the way for further such research.

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