

Exploring Innateness through Cultural and Linguistic Variation

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Introduction

This chapter reports on three separate but interwoven studies that documented varying aspects of language acquisition as it occurs in the Inuit population of two communities in northern Quebec, whose inhabitants speak Inuktitut on a routine basis. Issues concerning the innate and variable properties of language will be addressed with culturally based ethnographic language socialization data, linguistically based acquisition data and elements from a case study of an Inuk child with language impairment.

Certain specific properties of both the Inuktitut language and Inuit cultural patterns of socialization, when contrasted with other cultures and languages, allow some degree of delineation of innate from socially constructed properties of language. The examination of cross-cultural and cross-linguistic commonalities helps to define some of the core features of both language input and language acquisition. Cross-cultural and cross-linguistic variations, on the other hand, can serve as evidence for certain of the innate properties of the human child's mind by demonstrating both the extent and the limitations of variation. Finally, developmental language impairment represents a variation in the organism, creating a skew in the process of normal development and thereby providing another source of information concerning the mutable and immutable aspects of language. Evidence of this disorder in a polysynthetic language contributes to defining the core characteristics of both the language and the disorder. It is the contention of this chapter, then, that certain core qualities of language, its instantiation in the human mind and its acquisition by the growing child can be explored by teasing apart the universal from the specific – and the impaired from the unimpaired. The Inuktitut language and Inuit cultural patterns of language socialization both have several properties that when compared with other languages and cultures are extremely informative in this process.

Inuktitut Language and Inuit Culture

Inuktitut

The Inuktitut language, a member of the Eskimo Aleut family, encompasses several mutually intelligible dialects and is spoken by the 23,000 Inuit of northern Canada. It exhibits a high degree of polysynthesis with prolific verbal and nominal inflections. This means that a nominal or verbal root is followed by from zero to eight morphemes corresponding to the Indo-European independent verbs, auxiliaries, deverbals, denominals, adverbials, adjectivals and so on; then an obligatory inflectional affix; and finally optional enclitics. The following example shows how nominal elements may include a variety of modifiers suffixed to the root:

- (1) *Quttukallakutaatsiaraapimmut.*
 qut-juq-kallaq-kutaaq-tsiaq-apik-mut
 be.funny-NOM-DIM-tall-nice-handsome-ALL.sg
 Be a nice tall handsome cute funny person.¹

Verbal elements typically show a greater degree of polysynthesis, as in this example:

- (2) *Annuraarsimalukatsitipaujaalumijuq.*
 annuraaq-sima-lukat-siti-paujaaluk-u-mi-juq
 clothe-PERF-unusually-well-very-be-also-PAR.3sS
 She also often dresses up very unusually.

Inuktitut also has an ergative case-marking system, SOXV word order and ellipsis of both subject and object.

Inuit Culture

Present-day Inuit culture in Northern Quebec is based on the Thule culture, in which caribou and seal hunting were the mainstays of the economy and people lived a nomadic and seasonally based existence in snow houses and tents, travelling by dogsled and kayak. Today, families live in modern houses with telephones and television, and travel by airplanes, skidoos and motor boats. Their children go to school while many adult family members work for cash wages. Despite this, a number of aspects of family structure and activities of daily living are still rooted in traditional patterns. Many children are raised in extended multigenerational family networks where custom adoption and fictive kinship are important elements of family structure (Crago 1988). Traditional subsistence activities associated with hunting and

gathering are still routine parts of family life. It is evident that forces of cultural and linguistic assimilation are strong, with the risk that much of what is documented here may change or disappear.

The Children and Families

The families and children involved in the three studies come from Kangirsuk and Quaqtqaq, two small communities on Ungava Bay, located some 1,200 kilometres northeast of Montreal. First settled in the 1960s, these communities had, by the late 1980s, populations of just over 200 and 300 permanent residents, only 8 to 12 of whom were non-Inuit. In the communities of Kangirsuk and Quaqtqaq, all verbal transactions between Inuit take place in Inuktitut. This includes the language addressed to children and spoken by them.

Data in this chapter are taken from three different studies: a language socialization study, an acquisitional study and a study of a language-impaired child, each with its own cohort of children. The language socialization study involved four monolingual Inuit children aged 1;0 to 1;9 at the outset who were selected at random from the general population. Videotapes and observations of a full range of naturalistic family activities were made every three months for a year. In addition, mothers of all the children taped and a random sample of other mothers, representing about a third of the women in one community, were interviewed at length about their concepts of language input and acquisition.

The acquisitional study involved a second cohort of four monolingual children aged 2;0 to 2;10 at the outset. Approximately four hours of data from each of the four children in this additional cohort were collected every month for nine months by videotaping naturalistic spontaneous speech used by the children with their families and friends.

Data from the language-impaired child are part of an ongoing study of a larger group of developmentally language-impaired Inuktitut speakers. This particular girl was 5;4 when we videotaped her at play with a friend. She is a member of a large extended family network of over 60 individuals in which there are five other developmentally language-impaired individuals. The impaired child's utterances have been matched by mean length of utterance (MLU) to a 2-year-old boy from the language acquisition study and by age to her playmate.

All Inuktitut language data were entered on the computer following the CHAT transcription conventions from the CHILDES project, and subsequent analyses were conducted using the CLAN programs (MacWhinney and Snow 1990). Transcriptions and translations were done by Inuit research assistants.

Elements of Language Socialization

Approximately a decade ago, Bruner (1981; 1983) introduced the idea that a LASS (Language Acquisition Support System) was the perfect accompaniment to a LAD (Language Acquisition Device). Ninio and Bruner (1978) demonstrated some of the elements of this system that they referred to as "scaffolding" and "fine-tuning" (Bruner 1981, 167). However, a number of cross-cultural studies spanning the last 10 years have indicated that scaffolding and fine-tuning need not take the form that Bruner delineated in his studies of white middle-class British and American children and mothers. The present research demonstrates that while Inuit caregivers provide a sociopragmatic framework for their children during their language-learning years, it is not the same as that evidenced in anglocentric studies of the white middle class. Furthermore, the different patterns of input and interaction are undergirded by each culture's own complex nexus of values, family structures and sociocultural activities.

To illustrate this, some points of comparison in Bruner's Vygotskian data (1981) and the Inuit data that we have gathered merit discussion. Scaffolding and fine-tuning in Bruner's model of the LASS includes the frequent pairing of child and mother as conversational partners within a dyadic framework. Many of these conversations take place within a series of "nanocosms" or mini-discourse routines (Bruner 1985, 27). In the early stages of language acquisition, these include embedding phonologically constant forms into ritualized what and where games. According to Ninio and Bruner (1978), at two to three years old, bookreading also becomes a scaffold for question-and-answer routines with a set of interactional properties that revolve around shared attention, querying, labelling and feedback. In general, Bruner's version of the LASS involves a mother and child engaged in a performance-based verbal interactional model. Parental labelling, expansions of the child's utterances and queries for labels play a principal role in the language input to children. These particular properties of dyadic interaction, then, form the basis of the system that Bruner considers quintessential to the activation of a language-acquisition device.

The Inuit pattern of environmental support for language learning is strikingly different (Crago 1988). Inuit children are raised even today, for the most part, in multi-aged, multiparty talking environments. At a young age, children are oriented toward a great deal of interaction with their age-similar peers. One- and 2-year-olds in the language socialization study played daily with cousins or near-age brothers, sisters and friends. Peer talk among the 1- to 3-year-olds involved pretend play with and without toy props and talk that accompanied physical play.

The input to children from their peers did not involve the fine-tuning depicted by Bruner. There was some minimal register adjustment and occasional corrections of one child by a slightly older child, but peer language surrounding children in this age range involved, in large part, the not yet phonologically constant units of early language, some early combinatorial units, some ungrammatical constructions, some grammatical constructions and a limited lexicon. It did not involve the repetitive mini-dialogues consisting of alternating queries and labels that Bruner described.

On the other hand, Inuit children are frequently cared for by sibling teenagers or, in certain families, by young mothers. Interactions with these partners often included extensive repetition routines that centred around instructing the 1- to 2-year-old child how to engage in greeting routines by modelling directly after the competent member. These routines resembled in some ways Bruner's nanocosms with fine-tuned scaffolding steering the child to appropriate production. They did not, however, scaffold the child's language by the use of question-and-answer routines or by expansions of the child's utterances (Crago and Eriks-Brophy, 1993). Furthermore, these repetition routines were very limited in the particular linguistic structures that they addressed.

Of perhaps even greater interest was the communicative interaction of young children with their older (40 years old and more) traditional mothers. These women considered their role to be different than that of the sibling caregivers. One older mother expressed this difference as follows: "If the child has siblings, she is taught more to talk by them; when they look after their younger siblings they talk to them. The mother talks less to the baby than the one who is taking care of the baby for her. The mother teaches the child to talk less than the person who is looking after the baby."

Yet, now that sibling caregivers are in school all day, these older mothers have become more constant companions of their young children. Older mothers are represented in large numbers in the population due to the practice of custom adoption. These women engaged in about a third as much conversation with their children as younger mothers did (Hough-Eyamie 1993). When their infants babbled, these older mothers sometimes repeated the sounds or the intonation contour of the babble but they did not interpret the sound string as meaningful communication. These women only occasionally labelled objects for their children, rarely expanded their children's utterances or made semantically contingent remarks. They asked their children almost no test questions to which they, the mothers, knew the answer. The older

mothers would sometimes address the child using strings of nonsense syllables synthesized into their speech as a form of affectionate talk. Affectionate talk sounded harsh and loud to the non-Inuit researchers who sometimes mistook it for anger. A large proportion of utterances addressed to the child were directives in the imperative form. Furthermore, these mothers frequently co-constructed communication in silence with their children. Disciplinary negotiation, instructional activities, bedding, eating, dressing and bathing took place in silence. These mothers did not read their children books nor did they involve themselves in toy play, and they did not issue children invitations to produce language by saying, "Tell so and so about such and such." Their children were deliberately excluded from participating in adult conversation. In their role as spectators, the children, for their part, were eavesdroppers on considerable talk that was not addressed to them. In their homes there were often several adults, older siblings and visitors who conversed in the children's presence. The Bible was read aloud, while family members (including the 1- and 2-year-olds) listened. Older mothers sometimes conversed in the child's presence, about the child, to the sibling caregivers without addressing talk specifically to the child. In their interviews, all the women over 40 in one community said that the measure of whether children had learned language was by whether children understood what was being addressed to them. They typically expressed this idea in statements such as this: "When she is able to understand then if she is told to go and get the mitten and if she went and got it, and when she was told to bring it over to the person who sent her to get it and if she understood that, then, we can know she has learned language in that way today."

In these and other comments, the older women essentially described themselves as involved with their children in a largely comprehension-based model of learning language. Production aspects of language learning, then, occurred principally in the interactions of children with their peers and sibling caregivers or young mothers. These interactions conformed only in very small measure with the specific description of fine-tuning and scaffolding that Bruner provided. Interestingly enough, while the sociopragmatic use of language differed in the homes of the older mothers, the children's acquisitional stages were not necessarily any different from children in homes with younger mothers. In fact, some children of older parents were both reported and observed to have more well developed language and more extensive vocabularies (Allen and Crago 1992).

The Inuit example of caregiver input and interaction, taken together with evidence from other cultures (Ochs and Schieffelin 1984; Schieffelin

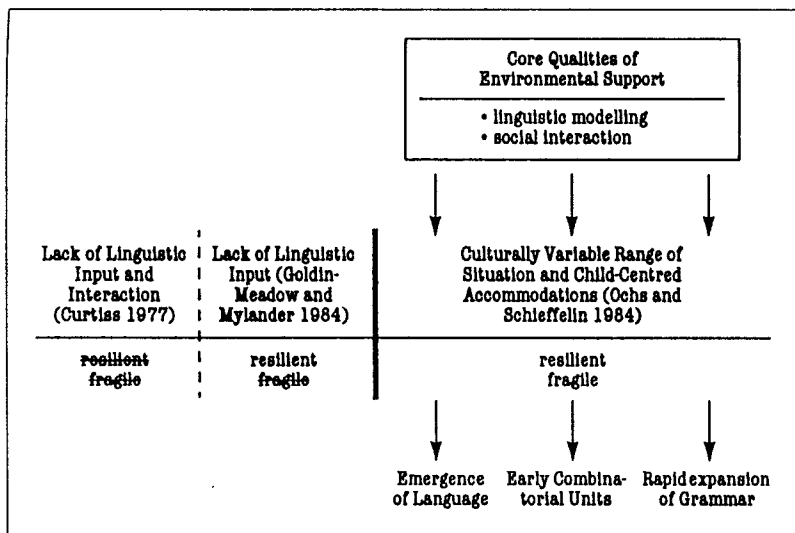


Figure 1: Cultural Variation between Caregiver and Child: Input and Interaction. Curtiss (1977) claimed that lack of input affected both the resilient and fragile aspects of language acquisition in children. Goldin-Meadow and Mylander (1984) claimed that only the fragile aspects of language acquisition were affected.

and Ochs 1986), then, shows that if there is a LASS it must be able to include a wide range of culturally variable, environmentally supportive behaviours. Ochs and Schieffelin (1984) have described the principal dimension of this continuum in terms of child- and situation-centred accommodations. It is equally clear that such a continuum of environmental support has a point of demarcation beyond which language is not fully acquired (Curtiss 1977; Goldin-Meadow and Mylander 1984). Across the range of cultural variation, a small number of core qualities stand out as necessary (Rogoff 1990). These include, quite simply, the presence of language used interactively but not necessarily in interaction with the child and the presence of an affectionate interactional relationship between the child and others. With such essential elements intact, both what Goldin-Meadow and Mylander (1984) have called the resilient and fragile properties of language emerge according to some very robustly set developmental milestones (see Figure 1). These milestones include the emergence of single words, the early combination of units and the rapid expansion of the grammar. The robustness of these milestones, in the face of the considerable variation of input, can be taken as evidence that there are some substantially innate properties in the child's brain and mind that can be activated, given a fundamental core of environmental support.

Some Acquisitional Properties of Inuktitut

Similar to the cultural range of variation in input and interaction that exists, there is also a range of variation in the languages to which children are exposed. Inuktitut, with its high degree of polysynthesis, represents an interesting contrast with Indo-European languages. How does this difference manifest itself in the acquisition of Inuktitut by Inuit monolingual speakers?

The Emergence of Single Words

The youngest cohort of children, those from the language socialization study, all passed through a one-word (one-morpheme) stage between 9 and 14 months. Their vocabulary, consisting of many more nouns than verbs, focused mainly on animate beings (people and animals), food and the enactment of personal desires. These types of words are similar to those reported for English by Nelson (1973). Furthermore, when Inuit mothers were asked at what age children spoke in single units (morphemes or words), they reported the typical age to be about one year. Despite the fact that the interpretation of what constitutes first words has been shown to vary across cultures by Ochs and Schieffelin (1984), the basic age at which such single linguistic units have been reported to emerge is between 9 and 15 months (except in cases of developmental language impairment).

Early Combinations of Words and Morphemes

Inuit mothers reported that Inuktitut-speaking children typically begin putting two units (words or morphemes) together between 1;6 and 2;0. The early combination of two morphemes in Inuktitut is an interesting phenomenon. What is manifested as a two-word stage in other languages becomes, in part, a two-morpheme stage in a polysynthetic language such as Inuktitut. Data from the youngest cohort were analyzed for this early combinatorial stage by eliminating all transcripts in which the child was clearly at a one-word stage or clearly beyond the two-morpheme, two-word stage. The data were then divided into two groups. One group consisted of utterances with two morphemes and one word, and the other of two morphemes and two words (see Tables 1 and 2 for samples of these groups).

The utterances in the two-morphemes, one-word category were divided into two groups, those with two lexical units and those that involved inflections. In a total of the four children's 110 two-morpheme, one-word utterances, 63% were inflected. These findings concur with data from Fortescue's (1985) study of a single speaker of Greenlandic Eskimo. However, they are strikingly at variance with Roger Brown's (1973) and Martin Braine's (1976) English data that show children at

<i>Lexical Combinations</i>	
<i>ataata-ai</i>	father-greetings
<i>apaapa-una</i>	food-this.one
<i>qimmiq-apik</i>	dog-cute
<i>nanuq-aluk</i>	polar.bear-big
<i>qajaq-tuq</i>	soup-eat
<i>Inflected Combinations</i>	
<i>immi-guk</i>	drink-you/it!
<i>qai-git</i>	come-you!
<i>aammu-juq</i>	sleep-he
<i>qiu-vunga</i>	be.cold-I
<i>apaa-kka</i>	clothes-my

Table 1: Sample Data: Two Morphemes, One Word

<i>aani imii-</i>	Annie drink
<i>maani aapu-</i>	here gone
<i>iqaluk uuvaa-</i>	fish bleed
<i>anaana atai-</i>	mom go.out
<i>auka ruuta</i>	no Rhoda
<i>tiituq- anaana</i>	drink.tea mom
<i>una paapi</i>	this.one baby
<i>maani siaru</i>	here later
<i>una uvanga</i>	this.one mine
<i>ataata apaapa</i>	dad food

Table 2: Sample Data: Two Morphemes, Two Words

this early combinatorial stage to be producing almost exclusively open class words (uninflected nouns, verbs and adjectives). Closed class words, including inflections, on the other hand, are usually missing in English at this stage and, when present, they are not reported to show the same productivity as they did with the Inuit children.

It appears that the polysynthetic nature of Inuktitut is influencing this particular stage of language acquisition. At the same time that these findings may be taken as evidence for language-specific variation, it is important to note the universality of the two-unit combinatorial stage and its age of emergence. This particular stage leaves open a variety of possible interpretations as to the nature of why children are constrained to two units. Is it a syntactic morphological constraint on word-building or a more cognitive constraint on concepts to be expressed or a manifestation of a processing constraint or a reflection of limitations of speech motor control? The Inuktitut example suggests that the syntactic morphological skills at this age are less constrained than English data might have indicated.

Rapid Grammatical Expansion

The next major milestone in these core aspects of language development is the rapid expansion of the grammar. In our sample, there is a child who, a few scant months after being at the two-unit combinatorial stage, is in his early twos using very complex utterances, such as the following:

Age 2;0

(3) *Tursuuniituruluinikkun.*

tursuuk-ni-it-juq-guluk-it-ikku-a

porch-LOC.pl-be-NOM-pitiful-ABS.pl-that.one-ABS.pl

Those pitiful ones are on the porch.

(4) *Ataatamut takujautsaruarimat.*

ataata-mut taku-jau-tsaruq-mat

father-ALL.sg see-PASS-really-might-CSV.3sS

It really might be seen by father.

Age 2;5

(5) *Quaqtalialaartunga uuminga takulaartunga.*

Quaqtq-liaq-laaq-junga u-minga taku-laaq-junga

Quaqtq-go.to-FUT-PAR.1sS this.one-MOD.sg see-FUT-PAR.1sS

When I go to Quaqtq I'll see this one.

(6) *Kinaumuna pigilangalirtanga?*

kina-up-u-na pi-gi-langa-liq-janga

who-ERG.sg-this.one-ABS.sg thing-have.as-FUT-PRES-PAR.3sS.3sO

Who will have this one?

Age 2;9

(7) *Nunakkuujuuraalunga aluuraaluu atjitaartuvinialu.*

nunakkuujuuq-aluk-nga aluu-aluk-up atji-taaq-juq-viniq-aluk
truck-EMPH-ABS.3Ssg white.person-EMPH-ERG.sg same-
acquire-NOM-former-EMPH

He got a truck like the white person's.

(8) *Nilattataukainnaqita anaana kinakkunut?*

nilak-taq-jau-kainnaq-vita anaana kina-kkut-nut

ice-fetch-PASS-PAST-INT.1pS mother who-and.group-ALL.sg

Who were we brought ice by, Mom?

Although these examples are somewhat precocious compared to the language of certain other children in the sample, there is nevertheless evidence across a variety of cultures and languages, including Inuktitut, that grammar expands in a dramatic fashion between the ages of 2 and 3 years (Slobin 1985b, 1992a). Again, there is a margin of individual variation, but the phenomenon is, indeed, robust. As Pinker (this volume) has pointed out, without the existence of some basically innate linguistic structures, it seems impossible for this kind of expansion to take place in the manner and time space that it does. However, the precise nature and timetable of the grammatical expansion is language-specific. The acquisition of the passive in Inuktitut is an interesting example of rapid grammatical expansion occurring in a fashion that is quite different from what has been documented for Indo-European languages.

Passives

Studies of passive structure have provided key information for both linguistic theory and language acquisition because of the role that this structure plays in demonstrating the existence of underlying subject and object and in developing the notion of constituent movement. The passive has been claimed to be a complex structure which is acquired reasonably late, by about 4;0 in English, 5;0 in German and 8;0 in Hebrew (de Villiers and de Villiers 1985; Mills 1985; Berman 1985). Borer and Wexler (1987) used such evidence to confirm their Maturational Hypothesis. This hypothesis claims that ordering in acquisition is due to certain grammatical principles that mature in a similar fashion to certain biological functions such as secondary sex characteristics. According to this theory, linguistic structures such as the passive are learned at a later age when the relevant linguistic principle matures within the child. Furthermore, the phenomenon cannot be explained by learning or triggering. The principle governing Argument (A) chain formation implicated in Noun Phrase (NP) movement used in passives is considered to be a late-maturing linguistic principle.

The acquisition of passive in Inuktitut presents an interesting test case for this theory. Inuktitut, like a number of other languages, has two passives: verbal and adjectival. Unlike English, these two forms of the passive in Inuktitut are not homophonous. Both the verbal and adjectival passives are formed syntactically. Verbal passives in Inuktitut and English, in fact, exhibit essentially the same linguistic characteristics, as seen below.

- (9) *Jaaniup niqi nirijanga.*
 Jaani-up niqu-Ø niri-janga
 Johnny-ERG.sg food-ABS.sg eat-PAR.3sS.3sO
 Johnny is eating the food.
- (10) *Niqi Jaanimut nirijaujuq.*
 niqu-Ø Jaani-mut niri-jau-juq
 food-ABS.sg Johnny-ALL.sg eat-PASS-PAR.3sS
 The food was eaten by Johnny.

Children in the language-acquisition cohort used passives at a very early age with a strikingly high frequency (Allen, in press; Allen and Crago, in press). The high frequency of passives in Inuktitut is particularly evident in contrast with English data. In English, only 12 passives occur in 113 hours of tape taken before age 3;1 (Demuth 1990) whereas Inuit children in the same age range produced 45 passives in 15.3 hours of tape. The number of passives per hour for Inuktitut was 2.8 for children (aged 2;0 to 3;6) in comparison to 0.4 passives per hour for English speaking children (Pinker, Lebeaux and Frost 1987). Furthermore, the use of passives by the Inuit children could be demonstrated to be productive. Inuit children, for example, formed novel utterances by putting passive morphology on verbs to achieve meanings not typical in adult language. They also demonstrated appropriate alternation between passive and active forms using the same verb. Finally, Inuit children demonstrated their productive use of the passive by self-correction.

Thus the acquisition of passive in Inuktitut is not in conformance with the conclusions and theory based on passive acquisition in Indo-European languages, but rather supports findings from other non-Indo-European languages (Demuth 1990; Pye and Quixtan Poz 1988) and lends support to Pinker's (1984) Continuity Hypothesis. This hypothesis states that all grammatical principles are available to the child at birth and remain constant throughout development. The variation in the timing of acquisition is due to language-specific factors. For instance, the use of the passive is high in the speech of Inuit adults. However, this high frequency, as well as the children's high frequency of usage, could

be due to an avoidance strategy related to the complex inflectional system of Inuktitut. Verbal inflection on a transitive structure must agree with both subject and object, which, given 9 possible verbal modalities, 4 persons and 3 numbers, yields in the vicinity of 900 possible choices of inflection. The verbal inflection on a passive only needs to agree with subject and not object, decreasing the number of inflections to be mastered from approximately 900 to approximately 100. The high frequency of passives also reflects the highly polysynthetic nature of Inuktitut in which NP movement and head movement are used in a large number of structures. These same types of movement that are used to produce passive are also responsible for causatives, desideratives and antipassives. Such structures are being used by 2- and 3-year-old Inuktitut speakers whereas they do not normally occur in the speech of the English-speaking children of the same age.

If it is assumed that an innate capacity for grammatical structure is instantiated in the biological make-up of the individual child, the specific and variable aspects of particular languages, then, influence the exact manner in which this structure gets filled in.

Specific Language Impairment

Developmental language impairment demonstrates how linguistic structure does not function in accordance with normal acquisition. Data from a 5-year-old language-impaired child who is a member of a large extended family, five of whom are reported to have language impairment, provided evidence for the type of linguistic deficits that can result from this disorder. The child in question has hearing within normal limits. Despite a difficult start in an adopted family with whom she did not remain, this child is now reported by her family members and her Inuk school teacher to be normal cognitively and emotionally. The following examples of her deficits are taken from 200 utterances of this child's spontaneous speech.

The impaired members of this child's extended family were identified as impaired by their mothers, who indicated that the first evidence for abnormality was the children's late onset of language, with first words emerging well after the third year. The use of this milestone as an identifying factor in a culture that has not traditionally consulted normative charts lends credence to the robustness of this milestone as a pivot point in normal language development.

Unfortunately there is no information on how this child performed at the two-unit combinatorial stage, but the expansion of her grammar is interesting. Indeed expansion did take place but there is, for instance, no evidence for use of the passive structure in the language-impaired girl's utterances. This is quite different from the children matching her

in MLU and in age, both of whom had several exemplars of productive passive use (Crago and Allen, in press).

Two other features of this child's grammar are particularly intriguing. She makes an error that the normal Inuit children in our sample never demonstrated at any stage in their acquisition of Inuktitut. Examples (11a), (12a) and (13a) below show how the language-impaired child violates a basically synthetic aspect of Inuktitut (note that "sit down" in (11a) is an English word which this subject is using in place of the Inuktitut verb root *ingi-*). The paired examples (11b), (12b) and (13b) show what would have been expected of an unimpaired child:

(11a) *Maunga ahm sitdownnnguami ivvit imaittumi.*
 ma-unga ahm sitdown-nnguaq-MI ivvit imaittumik
 here-ALL um sitdown-pretend-MI you one.like.this
 Here uhhm pretend to sit down you one like this.

(11b) *Maunga inginnguarit.*
 ma-unga ingi-nnguaq-git
 here-ALL sit-pretend-IMP.2sS
 Sit down here.

Or: *Maani itsivannguarit.*
 ma-ani itsivaq-nnguaq-git
 here-LOC sit-pretend-IMP.2sS
 Sit down here.

(12a) *Maani ivvit.*
 ma-ani ivvit
 here-LOC you
 Be here.

(12b) *Maaniigit.*
 ma-ani-it-git
 here-LOC-be-IMP.2sS
 Be here.

(13a) *Asuu upittumii taku ivvi uumaa aani.*
 asuu imaittumik taku ivvit uuma aani
 okay one.like.this see you this.one xxx
 Okay like this see you this one xxx.

(13b) *Asuu imaittumik uumunga takujauvutit.*
 asuu imaittumik uu-munga taku-jau-vutit
 okay one.like.this this.one-ALL see-PASS-IND.2sS
 Okay one like this was seen by this one.

This particular tendency to use *ivvit* rather than a verbal inflection was striking to our Inuit colleagues since, in their experience, this structural abnormality did not occur in normally developing children's language and because it bore a remarkable similarity to certain utterances that Inuit report being used by and to Inuktitut second-language speakers. The following utterances, taken from conversations between older Inuit men and white men, indicate how monolingual Inuit men presumably altered their own language to help speakers of a non-polysynthetic language, mimicking the kind of errors that English and French speakers make when attempting to speak Inuktitut. Sentences (14a), (15a) and (16a) are what our Inuit colleagues report that Inuit men said to non-Inuit men whereas sentences (14b), (15b) and (16c) are what Inuit speakers would say to each other:

(14a) *Ivvit maani auka.*

ivvit ma-ani auka
you here-LOC no
You weren't here.

(14b) *Tamaaniiqqaunginavit.*

Ta-ma-ani-it-qqau-nngit-gavit
PRE-here-LOC-be-PAST-not-CSV.2sS
You weren't here.

(15a) *Ivvit taku siaru.*

ivvit taku siaru
you see later
You'll see later.

(15b) *Siaru takuniarqutit.*

Siaru taku-niaq-vutit
later see-FUT-you
You'll see later.

(16a) *Uvanga taku una.*

uvanga taku una
me see this.one
I see this one.

(16b) *Takujara.*

taku-jara
see-PAR.1sS.3sO
I see it.

Example (17a) is reported to be taken from the speech of a white priest when learning to speak Inuktitut. A native speaker would have been expected to say (17b).

- (17a) *Qquumat maani piujuq.*
 qquuq-mmat ma-ani piu-juq
 probably-CSV.3sS here-LOC be.good-PAR.3sS
 It will probably be nice here.
- (17b) *Maani piujuuqquumat.*
 ma-ani piu-juq-u-qquuq-mmat
 here-LOC be.good-that.which-be-probably-CSV.3sS
 It will probably be nice here.

Slobin (1985b) has claimed that it is a universal operating principle in the acquisition of language to show a preference for analytic over synthetic expressions. Since only second-language and language-impaired learners of Inuktitut showed this analytic tendency, it may be that the polysynthetic nature of Inuktitut serves to reduce, if not eliminate, the analytic tendency that is exhibited in other languages. This, then, implies that this analytic tendency is not a universal phenomenon.

Another form of error is made by the language-impaired child. It involves form-class agreement. In the 200 utterances, there are 3 examples of nominal inflection used on a verbal element. -mi, -mit, -mik are three nominal endings that are often pronounced as /mi/ in present-day spoken Inuktitut. In the following examples (18a, 19a and 20a), the language-impaired girl puts the ending -mi on a verbal root. As in the previous examples, the correct version of these utterances appears in (19b) and (20b). This type of error does not occur in any of the normally developing children's language. (Note that utterance [18a] has no clear meaning other than as a composition of its parts, so there is no grammatical counterpart [18b].)

- (18a) *Situramilli imaittumi?*
 situraq-MI-li imaittumik
 slide.down.slope-MI-and one.like.this
 Sliding one like this?
- (19a) *Maunga ahm sitdownnnguami ivvit imaittumi.*
 ma-unga ahm sitdown-nnguaq-MI ivvit imaittumik
 here-ALL um sitdown-pretend-MI you one.like.this
 Here um pretend to sit down you one like this.
- (19b) *Maunga inginnguarit.*
 ma-unga ingi-nnguaq-git
 here-ALL sit-pretend-IMP.2sS
 Sit down here.
- Or: *Maani itsivannguarit.*
 ma-ani itsivaq-nnguaq-git
 here-LOC sit-pretend-IMP.2sS
 Sit down here.

(20a) *Atii aullanguami imittumi.*

atii aullaq-nnguaq-MI imaittumik
 okay leave-pretend-MI one.like.this
 Okay pretend to leave the one like this.

(20b) *Atii aullanguarluk imaittukut.*

atii aullaq-nnguaq-luk imaittuq-kkut
 okay leave-pretend-IMP.2dS one.like.this-VIA.sg
 Okay let's pretend to leave through this thing.

If, in fact, this type of error can be considered to be a form-class error, then, it represents a strikingly different property from what has been reported for English SLI where form-class errors have been reported not to occur.

Furthermore, observational comparisons show that the impaired child's vocabulary is more restricted than her age match and her MLU match. In the examples above, she frequently uses the word *imaittumik* (thingamajig). In Inuktitut, the limitations of her lexicon could represent both a lack of lexical items and/or a lack of synthesizing skills with which to handle the morphological complexity necessary to construct certain lexical items.

This preliminary evidence about developmental language impairment in Inuktitut confirms the hypothesis that this disorder reflects an underlying deficit in the grammar. This is demonstrated by the fact that the irregularities in this child's language affect a number of aspects of her grammar that are not explained by alternative hypotheses (Gopnik et al., this volume). It also underlines the importance of studying language impairment cross-linguistically as well as the importance of using the impaired model to inform the normal model of language acquisition and the corollary, the importance of using the normal model to inform the impaired model.

Conclusions

In this chapter, Inuit examples have been used to highlight both the specific and the universal, the environmental and the innate, the mutable and the immutable aspects of language. Concerning the variable aspects, the Inuit culture shows how input to children varies, creating a wide range of sociopragmatic features of language used by and to children. Heath (1989) has used such cultural multiplicity to argue for the exceptional plasticity of the human organism. Furthermore, evidence from the acquisition of the passive in Inuktitut demonstrates how specific timetables, ordering and forms of grammatical properties in children's language vary across languages. Such cultural and linguistic variation shows the importance of avoiding Anglocentrism in the

study of language learning (Slobin 1985; 1992a). Indeed Slobin (1992b) has pointed out that as more cross-linguistic evidence accumulates, his list of universal operating principles is shortening.

The extent of the variability, however, does not prove that there is nothing at the core. Given certain core features of environmental support and an intact organism, the basic milestones for language acquisition first articulated by Lenneberg (1967) appear to be exceptionally robust across cultures and languages. The robustness of these milestones does not deny that they are individually sculpted by the specifics of each culture and language. Nor, however, does the individual sculpting deny the sturdiness of the phenomena. The milestones only break down when the organism is impaired. In cases of impairment, the language milestones can be shown to dissociate from other developmental milestones such as those in the cognitive motor areas. The commonality of the language milestones across cultures and languages leads to the conclusion that there are certain fundamental innate characteristics to the human mind involved in the acquisition of language. In other words, variation cannot eclipse the fundamental properties that cut across cultures, languages and races. To conclude, the linguistic properties of the mind can be seen as fashioning the variable aspects of language into an elegant tapestry of multiplicity and at the same time rendering the common features of acquisition into a statement of equal mental capacity. Furthermore, the cross-linguistic study of the innate and socially constructed aspects of language can be profitably addressed by examining language acquisition at the level of linguistic structure, both in impairment and normal development.

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Note

1 The following abbreviations are used:

ABS = absolutive case	ALL = allative case
CSV = causative verbal modality	DIM = diminutive
ERG = ergative case	IMP = imperative verbal modality

IND = indicative verbal modality	INT = interrogative verbal modality
LOC = locative case	MOD = modal case
NOM = nominalizer	PAR = participial verbal modality (equivalent to indicative in Inuktitut)
PERF = perfective	pl = plural
PRE = prefix	sg = singular
VIA = vialis case	

For possessive nominal inflection:

3Ssg = third person possessor of singular possessed item

For verbal inflection:

1 = first person	2 = second person	3 = third person
s = singular	d = dual	p = plural
S = subject	O = object	

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