Psychology of Language and Communication 2003, Vol. 7, No. 1

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YOU IS I: SINGLE-PRONOUN REVERSAL IN A UKRAINIAN-SPEAKING CHILD: A CASE STUDY*

This case study investigated one Ukrainian-speaking boy's (MK's) repeated uses of the 2ps personal pronoun *ňč* (you) for self-reference over a twelve month period from 2;00 to 3;00. A brief description of the Ukrainian personal pronoun system and its obligatory and non-obligatory uses are presented. MK's consistent reversal behavior emerges as a prolonged, atypical error within an otherwise advanced language system, which includes a significant amount of correct pronoun use. Such repeated pronoun reversal activity, characterized by the failure to perform the necessary deictic shift, it is argued, has its beginnings in imitation and is followed by "semantic confusion" (Oshima-Takane, 1992) or the child's inability to understand the grammatical and semantic rules which govern the uses of *ňč* (you). Social factors, such as MK's restricted social contacts and characteristics and limitations of the input, further explain MK's reversals. The data provide evidence for the Person-Name Hypothesis (Clark, 1978; Charney, 1979) and for the "native language effect" (Girourad, Ricard & Gouin Decarie, 1997). The choice of including *ňč* (you) or omitting it altogether is described as a language-specific feature of MK's reversal behavior. Finally, MK's 2ps personal pronoun reversal is described as a mirror image of the input provided by mother. The study ends with an appeal for reversal studies of languages with various pronominal distinctions. Crosslinguistic data would shed more light on the relationship between pronominal complexity and reversal. This, in turn, would result in a more detailed and universally valid theoretical explanation of pronoun reversal.

Introduction

Pronominal reversals (not to be confused with errors in pronominal case markings: Tanz, 1974; Kaper, 1976) are personal pronouns which are reversed relative to correct use and have been identified as one form of pronominal error noted in the speech of young children. Reversing personal pronouns in the conversational context represents the language-learning child's failure to encode speech roles and thus make the obligatory shifts in reference. Reversals of personal pronouns have been called "the most striking errors of early child language" (Dale & Crain-Thoreson, 1993, p. 574). Pronoun reversal activity has been noted in the speech of young language-learning children since the beginning of the nineteen hundreds (Cooley, 1908; Jespersen, 1922; Bain, 1936).

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Personal pronoun acquisition studies have shown that among normally developing children, reversals are rare and that correct use is far more frequent than reversals. When reversals do occur, they are characterized by inconsistency and low frequency and usually disappear before age 3 (Shipley & Shipley, 1969; Clark, 1978; Charney, 1980; Chiat, 1981; Loveland, 1984; Oshima-Takame, 1992; Dale et al, 1993).

An important starting point in any investigation of pronoun reversals is the recognition that not all reversals are created equally (Dale et al 1993). This means that reversals produced by young children cannot be generalized, as they do not all result from the same underlying processes. For example, reversals produced consistently will have very different underlying processes from an intermittent, low frequency pattern of pronoun reversal. Also, reversals may be a result of different processes at different stages of development. For example, reversals produced early in development (before age 2) may be due to the imitative process while later reversals (after age 2) reflect possible pragmatic perspective switching. In the same way, delays in pronoun acquisition and pronominal reversals produced by autistic and congenitally blind children reflect their social and cognitive impairments, their difficulty in making the required deictic shifts and their problems in understanding speech roles and points of view (Bettelheim 1967; Fay 1971; Fraiberg & Adelson 1973; Fay 1979).

This paper investigates repeated reversal of one personal pronoun by a linguistically precocious child acquiring Ukrainian[1] (a little studied and relatively unknown language in child language literature) as a first language. A review of studies dealing with pronominal reversals in the speech of normally developing children serves as a framework for the present study. An overview of the personal pronoun system of Ukrainian is intended to give the reader an understanding of the extensive pronominal distinctions found in Ukrainian. The study is divided into the following subsections: a brief description of the home language environment, a sketch of the child's overall language ability and a description of the methodology. Person reference profiles (self and other) for the mother and for the child are related to earlier reports.

Literature review

Early diary reports describe the inconsistent and infrequent reversal of *I* and *you* in the speech of normally developing children as "a mere echo" (Cooley, 1908, p. 350) and as a repeated phrase (Cooley, 1908; Bain, 1936; Jespersen, 1922).

For E. Clark (1978), the child who reverses pronouns has actively formed a Pronoun Name Hypothesis and has an understanding that pronouns are a type of name. Such a hypothesis (referred to as Person-Referring by Charney, 1980) is child-centered and conforms to a general non-shifting strategy. For example in hearing *you* addressed in alternation with his/her name the child understands it to be synonymous with his/her name and formulates the rule: you = I. The following reports have provided evidence for the Name Hypothesis: Cooley, 1908; Bain, 1936; Chiat, 1982; Oshima-Takane, 1992.

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[1] For an historical review of Ukrainian child language research see Chumak-Horbatsch, 1994.

The Name Hypothesis, according to E. Clark, can extend to the reversal of possessive pronouns. For example, *your* is referred to self, following the same non-shifting pattern or rule. E. Clark goes on to explain that pronominal reversals, which are syntactically correct yet semantically incorrect, cause problems within conversation and are therefore, within a short time abandoned by the child and replaced with a speaker-centered personal pronoun hypothesis which conforms to the general reference shifting rule and results in correct person deixis contrast.

Like E. Clark, Oshima-Takane (1992) observes that reversed pronouns function as syntactically differentiated and correct units but that their meaning is incorrect. Her data support E. Clark's Name Hypothesis where her subject, David treated *I* and *you* as non-shifting terms, referring to mother and himself respectively. Following E. Clark further, Oshima-Takane shows that with time, David realized that *I* could refer to "any speaker including himself" and that *you* could refer to "any addressee other than himself" (p.129).

Oshima-Takane argues that a psychological explanation, which claims that pronominal reversals occur because young children cannot distinguish self from others, is invalid, as David correctly used his name for self-reference and others' names to refer to addressees *before* he began using any personal pronouns. Because David produced most of his *I* and *you* reversals during spontaneous speech, Oshima-Takane argues against simple imitation as an explanation for pronominal reversals. For her, young children's consistent reversal of *I* and *you* are a result of semantic confusion or a misunderstanding of the grammatical and semantic rules governing these pronouns. This is a competence-based explanation where consistent reversal implies the active formulation of a personal pronoun rule.

Oshima-Takane (1992) suggests that a close look at the pronominal input the language-learning child is exposed to can help explain pronominal reversals. She believes that in most cases a model for correct pronoun use is not directly provided in speech addressed to the child. For example, the child hears "a relatively impoverished" data set where mother uses *I* for self-reference and *you* in referring to the child. It is not surprising, then, at an initial level of analysis, that children reverse first and second person pronouns. Oshima-Takane believes that when parents inconsistently (or never) correct reversals, treat them as if they were correct, and do not provide the correct pronoun usage, children continue to reverse and have no need to change since the reversals work communicatively within the context of conversation.

In describing the significance of input, Oshima-Takane (1988) goes beyond the mother-child conversation context. Observing and attending to speech addressed to other persons, she claims, can help children discover and understand the relationship between personal pronouns and speech roles, e.g. hearing *you* addressed to someone else. Children who have little or no opportunity to listen to speech addressed to non-participants, she believes, are more likely to produce pronominal reversals.

Following Oshima-Takane's social focus, Deutsch, Wagner, Burchardt, Schultz and Nakath (1997), stress the importance of family context, whereby position and place in the family influences cognitive and therefore linguistic experiences. They found that siblings produced fewer pronoun reversals and replaced nominals with adult-like pronominals faster than singletons. The reasons for this, they argue, is the

"sibling effect" where siblings are exposed to "better input conditions", or child-child interaction characterized by situations of possession and conflict which serve to facilitate the understanding and the use of pronominal forms. The "sibling effect" supports Oshima-Takane's theory of the importance of attending to and learning from speech addressed to others in the acquisition of personal deixis.

Dale and Crain-Thoreson (1993) propose the Processing Complexity Hypothesis which claims that children fail to make the necessary deictic shift when their psycholinguistic processing resources are overloaded, that is, in conditions of unfamiliarity or high syntactic and/or semantic complexity, in sentences with more than one pronoun, in embedded sentences containing a pronoun, in sentences with two place predicates and with semantically reversible verbs. Such a view implies that personal pronouns are generally understood by the child and reversals may occur in specific discourse contexts as a result of the child's performance limitations. Such a view stands in contrast to Oshima-Takane's competence-based, semantic confusion explanation.

Young children's pronominal reversal has been linked to linguistic maturity. Dale and Crain-Thoreson found reversers to be more advanced linguistically (higher grammatical morpheme index, higher MLU) than non-reversers. They may be "risk takers", the authors suggest, willing to "utilize their partial knowledge in production" (p.587). In contrast to this, strategies adopted by less linguistically competent children included avoidance of personal pronouns and a strong preference for nominals.

Findings from a longitudinal study of the acquisition of English and French first, second and third person pronouns (Girouard, Ricard & Gouin Decarie, 1997) point to a "native language effect". In contrast to English-speaking children who understood all three pronouns in the non-addressee context, the French-speaking children exhibited third person comprehension delay. The authors believe this could be due to a combination of two factors: the complexity and irregularity of the French pronominal system and the added difficulty of speech addressed to others.

A study of Russian verb morphology (Kiebzak-Mandera, Smoczyńska, & Protassova, 1997) reports "occasional" 2ps self-reference in the speech of Varja up until the age of 1;7. In the example provided, Varja's response to mother's question: *What are you doing?* includes the 2ps personal pronoun for self-reference: *You listen to the telephone receiver* (p.107).

The mother of a Ukrainian-speaking, normally developing girl aged 2;03 described "occasional" 2ps reversal, usually in stressful or emotional contexts. These reversals were both "interesting and amusing" for the mother. For example, on entering a subway car for the first time, the child clung to her mother, hiding her face and screamed, *Ňč áożŕń ˙*! (You afraid!)[2].

To sum up, first and second person pronoun reversals are rare in normally developing children. Incorrect use is infrequent, inconsistent and is quickly replaced by correct forms. Social factors, such as the nature of the input (pronominal model) as well as exposure to non-addressed speech appear to facilitate correct, adult-like pro-

[2] From the author's personal notes.

Table 1. Ukrainian and English 2ps (masculine and feminine) Personal Pronouns

Case	Ukrainian form	Linguistic specification	English equivalent
Nom.	*ňč*	subject	*you*
Gen.	*ň Íá Í*	direct/indirect object	*you*
Dat.	*ň îáł*	indirect object	*you*
Acc.	*ň Íá Í*	direct/indirect object	*you*
Instr.	*ň îáî ţ*	indirect object (prepositional)	*you*
Loc.	*ď đč/ír ňîái*	indirect object (prepositional)	

nominal use. Two explanations have been put forth for *I* and *you* reversals: the first is competence-based (semantic confusion) and the second is performance-based (psycholinguistic burdening). Linguistic maturity has been related to pronominal reversal. Language-specific structural factors such as complexity and irregularity of the pronoun forms being acquired may also be a factor in reversal.

Personal pronoun system of Ukrainian

Personal pronouns or *îńîáîâł çŕéěĺííčęč* make up one of eight pronoun classes in Ukrainian. They stand for or represent persons, various other subjects, events and ideas.

Personal pronouns are morphologically similar to nouns and are semantically defined and treated as nouns. Their function and syntax should be examined in terms of nouns. While other forms in the Ukrainian pronominal system follow a noun- or adjective-based declensional pattern where inflectional endings resemble those of nouns or adjectives, irregularity or suppletion can be noted in all singular forms of *ňč* (you).

In Ukrainian, 1ps and 2ps personal pronouns do not have a constant meaning. Their meaning depends upon the person or word they refer to. Personal pronouns in the singular (I, you, he, she, it), are called Simple Pronouns (as opposed to Compound Pronouns) because of their structure. They are declined by case but not by gender. The gender of personal pronouns depends on the speaker.

Table 1 shows 2ps personal pronouns for Ukrainian and English. Compared to the regular and stable English formations, the Ukrainian 2ps personal pronouns are numerous and irregular. For the one English, *you*, there are 5 forms in Ukrainian. The Dative *ň îái* and the Locative *ň îái* are differentiated by last and first syllable stress respectively.

In informal speech, sentences without personal pronouns (in the indicative and conditional moods) are common, as Ukrainian verbs are marked for person, number and gender. For example in the sentence *Á ŕ÷ó çĺëĺíĺ ńâłňëî* (See the green light), the verb *á ŕ÷ó* is marked for 1ps masculine or feminine, depending on the speaker.

When included, personal pronouns serve two functions: they provide a tone of informality and they serve to emphasize and strengthen an utterance. The verb following a personal pronoun in Ukrainian must be in agreement or concord (person, gender, number). In responses to yes/no questions, the omission of personal pronouns is nearly obligatory.

The imperative mood does not require a personal pronoun, although when it is included, it follows the verb, adds emphasis and/or reduces the command tone, e.g. *łäč ňč âćĺ ńďŕňč* (Go (IMP) *you* already to sleep).

For a detailed description and an explanation of the historical changes within the Ukrainian pronominal system see Medushevsky & Zyatkovska (1963) and Bilodid (1969).

The Study

Language Environment

The subject, Mykyta, (hereafter MK) an only child and a monolingual speaker of Ukrainian, came to Toronto at the age of 1;10 with his parents from Kiev, Ukraine. An interview with the mother revealed that the language of the home was Ukrainian and that MK was linguistically precocious. She described him as a competent *ńďłâđîç-ěîâíčę* or conversation partner. She described MK's repeated 2ps personal pronoun reversal as a comical phenomenon, which would in time disappear. As newly arrived immigrants, the parents had very few acquaintances and social contacts. The father worked long hours while the mother stayed home with MK.

Two joint literacy activities dominated mother-child interaction at the time of the study: book sharing and "word building" using Ukrainian (Cyrillic) alphabet cards. Transcripts of recordings reveal that MK could identify most of the letters of the Cyrillic alphabet and eagerly combined them into words. He would often request and initiate this activity and suggest words he wanted to "build". In addition to this he could identify most colors and the numbers from 1-10.

General sketch of MK's language ability

Information about MK's language behavior comes from three sources: notes made following home visits, where the author interacted with MK (before and after each recording session); information provided by the mother, and from the recordings. Six aspects of MK's language ability are presented here and speak to his linguistic competence: (i) conversation skills, (ii) imitation, (iii) negation, (iv) verbal humor, (v) adjectival strings, and (vi) syllable omission.

(i) conversation skills

At the time of the study, MK was a competent conversation partner. He displayed an extensive vocabulary and used language to communicate his requests, ideas and his opposition to mother. As an active conversation partner, MK freely adopted the roles of sender and receiver (Wells, 1980) in the following ways: held mother's attention by sustaining conversation, freely selected topics for joint attention, maintained orderly turn taking, maintained unbroken conversational continuity by remaining on topic over several turns, freely contributed turns, listened to mother, made repeated use of verbs in the first person plural, waited for mother to complete her turn without interruption (with some exceptions), repeated key words in mother's turns, made requests known to mother, dealt with misunderstandings by repeating and/or emphasizing all or part of a turn and displayed requests for clarification.

(ii) imitation

Imitation, or the "copying of the speech of another person" (Richards, Platt & Platt, 1992, p. 174) made up a significant component of MK's language behavior. Two kinds of imitation or copy-turns were noted in MK's response turns: partial and total. Partial imitation turns included some of the items found in mother's prior conversation contribution. In addition to this they included negative particles, negative particle-prefixes and/or changed word order. All partial imitations produced by MK included the obligatory morphological changes.

Total imitation response turns were mechanical copies of mother's prior turn with either identical or changed intonation. In most cases total imitation turns were shorter than partial imitation turns.

(iii) negation

The data reveal that MK comprehended negative turns produced by mother and was able to produce spontaneous and response negative conversation contributions. Four different negative responses to mother's *yes/no* questions were noted in MK's speech: *í í í í*[3] (nnnn), *í î* (no), *íüĺ* (nje) and the correct *íł* (ni) response.

The most frequently noted negative construction noted in the speech of MK was the negation of mother's (single) verb forms. In these negated "copies", the negative particle *í Ĺ* preceded mother's verb (1ppl IMP or 2ps) An example follows:

M: *Ďđî÷čňŕé ęđŕůĺ ńŕ ě.*
(Read (IMP) better yourself.)
C: *Íĺ ď'đî÷čňŕé.*
(Not (NEG) read (IMP).)

A small number of negated compound verbs were noted in MK's spontaneous speech where the negative particle *í Ĺ* preceded the AUX verb as in: *Ěč íĺ áóäĺě î ńęëŕäŕňč* (We not (NEG) will (AUX) put in order.).

Other constituents negated by MK in response turns included a small number of adjectives, as in *íĺď'đŕâčëüíŕ áóęâŕ* (incorrect letter) and nouns, as in *íĺ áóęâó* (not letter). The negative adverb *í ĺěŕ* (not here) and two negative expressions *íł÷îăî* (nothing) and *íłäĺ* (nowhere) were also used by MK. On two occasions these were used together in a double negation construction: *Ŕ ňî íĺ áóäĺ íłäĺ* (But that *not* will be *nowhere*) and *Í ĺěŕ íłäĺ* (Is *not nowhere*.)

(iv) verbal humor

Verbal humor or joking denial was noted on 5 occasions during joint activities. Such behavior is clearly enjoyable for MK as he laughs, giggles and negates a familiar and established phenomenon. Humor theory helps to explain this behavior where a concrete situation the young child fully understands is humorously distorted (McGee, 1979). In the

[3] In examples from the data, the original Ukrainian utterance is followed by the English equivalent in parentheses.

example which follows, MK jokingly tries to pass on his tidying task to mother. The tone, laughter and playful state noted in the exchange speak to its fun and enjoyment for MK:

Mother has asked M to tidy up the letter cards he has scattered all over the floor:
M: *Ďîńęëřäŕé.*
(Tidy up 2pIMP.)
C: *Íî, ěřěř áóäĺ ńęëřäŕňč.*
(No Mama will tidy up.)
M: *Ŕ ňî ňč áóâ ďîđîçęčäŕâ.*
(But you were the one who scattered things.)
C: *Íî, ěřěř áóäĺ ńęëřäŕňč.*
(No, Mama will tidy up.)
M: *Ěŕřěř áóäĺ ńęëřäŕňč. Ăě ě ě ě.*
(Mama will tidy up. Hmmmm.)
Ŕ őłáŕ ěřěř đîçęčäŕëř áóęâč?
(But did Mama really scatter the letter cards?)
C: Laughs
(Đ)îçęčäŕëř
(Scattered.)
M: *Ňŕę*?
(Yes?)
C: *Ňŕę*
(Yes)
M: *Î íîâčíŕ ňŕęŕ.*
(Oh, that's news to me.)

(v) adjectival strings

The author's first visit to the home confirmed mother's statement about MK's advanced linguistic abilities where two features of his speech were noted: sentence length and attributive adjectival use. For example, in accepting a yellow tennis ball from the author, MK (age 1;11) smiled shyly, brushed the ball to his cheek and said clearly but very quietly: *Ě'ˉăĺíüęčé, ć îâňčé, ęóäëřňčé ě'ˉ÷čę* (Soft (DIM), yellow, furry ball (DIM).) Several examples of multiple qualitative adjective use (denoting color, size and/or form) were noted in MK's spontaneous speech during home visits and also in transcriptions of the recordings. Another example follows:

MK comments on his Lego construction:
Äčâčńü ˙ęčé ňî î ăŕđíčé, ěŕëĺńĺíüęčé (DIM) *ńňîâď÷čę* (DIM) *âčéřoâ.*
(Look (IMP) what, that, oh, nice, small (DIM) post (DIM) turned out.)

(vi) syllable omissions

MK omitted phonemes, consonants and syllables in initial, middle and final positions, with no evident pattern. This finding coincides with omissions found in single-words produced by a child acquiring Ukrainian as a first language (Chumak-Horbatsch, 1994).

The above description of language capabilities presents MK as a competent, even precocious, conversation partner who willingly and easily interacts with mother, negates some of her turns, imitates others and jokes verbally about matters he fully understands.

Methodology

MK's spontaneous home language was recorded every four months, at ages 2;00 (Time One or T1), 2;04 (T2), 2;08 (T3) and 3;00 (T4). For each T, a maximum of one and one-half hours of natural language was recorded. Total recording time was approximately 6 hours. During each recording session, MK wore a colorful apron-bib with a concealed micro-cassette recorder equipped with a voice activator. The mother wore an identical "dummy" apron-bib (which, instead of a cassette recorder, concealed a block of wood), thus making each recording session game-like.

Mother introduced each session with one of the following: "Let's put on our apron-bibs" or "It's time to wear our apron-bibs". The mother was asked to "*Do what you always do*", to interact with MK in a natural way. To ensure this, the author was not present during the recordings. Relevant contextual notes provided by the mother supplemented each recording session.

All turns produced by mother and MK which included clear (a) self reference and (b) reference to the conversation partner were selected from the recordings. MK's references to mother were divided into spontaneous and response turns. Spontaneous turns were initiated by MK and response turns were his responses to mother's turns.

A profile of mother's person reference, which includes self-reference and reference to MK, is presented as a preface to MK's pronominal reversal behavior. The reason for this is twofold: (a) to provide specifics of MK's person-reference input and (b) to allow for a comparison of MK's person-reference use with that provided in the input by mother.

Mother's person reference profile

Mother's self-reference

The data reveal that mother referred to herself in two ways, using (a) 1ps constructions and (b) the role name, *ěŕěŕ* (mama). A distribution table (Table 2) follows the description of each method of self-reference.

1PS CONSTRUCTIONS. The following three 1ps constructions were used by mother:

(i) ˙(I)+1psMV (Marked Verb) In this construction the 1ps personal pronoun ˙(I) was followed by a verb marked for 1ps, as in *ß áŕ÷ó* (I see).

(ii) 1psMV constructions consisted of a verb marked for 1ps without the personal pronoun as in *áŕ÷ó* (See).

(iii) 1psEXT (Extended) referred to constructions were the 1ps personal pronoun ˙(I) was extended to the Genitive (*ěĺíĺ*), Dative (*ěĺíi*), Accusative (*ěĺíĺ*) and Instrumental (*ěíîţ*) cases.

Table 2 shows that of the 136 self-reference instances, mother used a verb form marked for 1ps (˙(I)+MV and 1psMV) most often (M=73%). The role name *ěŕěŕ* (mother) was used in approximately one quarter of self-reference instances (M=26%).

Table 2. Distribution of mother's self-reference

	Time					
	T1	T2	T3	T4	Total	Mean
˙ (I)+MV & 1psMV	28	14	36	9	87	73%
1psEXT	3	2	7	1	13	
Role name	22	6	7	1	36	26%
Total	53	22	50	11	136	

Mother's reference to MK

As expected, mother referred to MK far more frequently than she made reference to herself. Mother's total reference to MK was five and one-half times (745) higher than reference to self (136). Mother referred to MK in two ways: 2ps constructions and "other" constructions.

2PS CONSTRUCTIONS. Mother used five different 2ps constructions in referring to MK; a distribution table (Table 3) follows the description of each 2ps construction:

(i) *ňč* (you)+2psMV: In this construction, the 2ps personal pronoun *ňč* (you) preceded a verb marked for 2ps as in *Ňč őo÷eř* (You want).
(ii) 2psMV: constructions consisted of verbs marked for 2ps *without* the personal pronoun as in *ńęŕ ćĺř* (tell).
(iii) 2psEXT: the Nominative of the personal pronoun *ňč* (you) was extended to other cases: Dative (*ň îáł*), Genitive (*ň Ĺá Í*), Accusative (*ň Ĺá Í*), Instrumental (*ň îáî ţ*). In addition to this the Nominative, Accusative and Genitive of the 2p possessive pronoun were used.
(iv) 2psSW (Single Word): In a small number of instances, mother used the 2ps personal pronoun *ňč* (you) as a single-word response to MK's "who" questions.
(v) 2ps IMP: *őî äč* (come).

Table 3 shows that 2ps constructions made up just over three-quarters (M=76%) of all of mother's reference to MK. Of the five 2ps constructions, 2ps verb constructions were used most often (M=33%). This included 2ps verbs preceded by the 2ps personal pronoun *ňč* (you) and 2ps verbs used without the personal pronoun. Mother's use of the 2ps IMP (Imperative), used almost as often as 2ps verb constructions (M=29%) speaks to the general directive strategy she adopted while interacting with MK.

OTHER CONSTRUCTIONS. Two non-2ps constructions, joint reference and "by name" were used by mother in reference to MK. A description of these is presented and is followed by a table (Table 4) of distribution.

JOINT REFERENCE. Joint reference included 1pp constructions (verbs marked with 1pp) where mother included herself in the reference. One joint reference construction included the 1pp verb preceded by the 1pp personal pronoun *ěč* (we) as in *Ěč çŕđŕç*

Table 3. Mother's reference to MK. 2ps constructions

	Time				
	T1	T2	T3	T4	Total
ňč (you)+2psMV	51	41	55	14	161
2psMV	37	21	26	7	91
2psEXT	26	15	36	12	89
2psIMP	88	22	86	23	219
2psSW	5	0	2	2	9
Total 2ps formations	207	99	205	58	569

Table 4. Mother's reference to MK. Other formations

	Time				
	T1	T2	T3	T4	Total
1 ppl	65	13	22	16	116
By name	38	4	15	3	60
Total	103	17	37	19	176

ďľäĺěî (We at once will go). Another joint reference construction included the 1pp verb without the personal pronoun as in *Ňóíĺëü çđîáčëč* (Tunnel we made).

A second joint reference used by mother in reference to MK was the 1ppIMP preceded by the particle-prompt *äŕâŕé*[4] (c'mon, let's) as in *Äŕâŕé ÷čňŕéěî* (C'mon, let's read).

Also, the 1pp personal pronoun Nominative *ěč* (we) was extended to the following cases: Genitive (*íŕń*), Dative (*íŕěî*), Accusative (*íŕń*), Instrumental (*íŕěč*), and Locative (*íŕń*).

By name. Mother used two name forms in referring to MK: simplex and diminutive. The simplex form, *Ěčęčňŕ* (Mykyta) was used to reprimand and scold MK. In playful, affectionate contexts two degrees of the diminutive form of MK's name were used by mother: the first degree of diminutivization, with the suffix *-ęŕ*, *Ěčęčň-ęŕ* (Mykytka) and the second degree which calls for the compound suffix *-îíü-ęŕ*, *Ěčęčň-îíü-ęŕ* (Mykyt-on'-ka).

MK's person-reference input

MK's person-reference input is dominated by 2ps constructions: verbs marked for 2ps and 2psIMP. He hears 2ps constructions from mother far more frequently than he hears 1ps constructions as evidenced by the low frequency of her 1ps self-reference.

[4] English equivalents: C'mon, let's... For a description of *äŕâŕé* as particle-prompt see Bilodid (1969, p. 390).

Table 5. MK's self-reference T1-T4

	Time				
	T1	T2	T3	T4	Total
2 ps reversal	84	44	107	66	301
1 ps	8	2	12	17	39
By name	13	0	2	0	15
Total self-reference	105	46	121	83	355

He hears joint constructions more often than he hears his name. In itself this "you" dominated input is not surprising, as parent-child conversations are heavily child-centered. What *is* unusual in the present case is the isolated linguistic environment in which this is happening and in which MK is acquiring pronominal forms. The lack of social contacts leave mother and child isolated in a symbiotic relationship where they have only each other as conversation partners. Thus MK's pronominal input can be described as "relatively impoverished" (Oshima-Takane, 1992) as he lacks the opportunity to attend to and learn from speech addressed to others. Exposure to the speech of non-participants has been described as "better input" and has been shown to facilitate the understanding and the use of pronominal forms.

MK: person reference

Self-reference

The recordings show that MK referred to himself twice as often as he referred to mother, 355:177. He expressed self-reference in three different ways: 2ps personal pronoun *ň č* (you) reversal, by name and using the correct 1ps personal pronoun ˙(I). Of these, 2ps personal pronoun reversal was the most frequent (M=85%). Correct use of 1ps ˙(I) was minimal, and self-reference by name was noted least often. Table 5 shows the frequency of MK's three forms of self-reference.

2ps personal pronoun ňč *(you) reversal*

MK's self-reference was dominated by 2ps reversal constructions. It is quite evident that he has mirrored mother's 2ps constructions in reference to himself. The following four 2ps constructions, found in mother's reference to MK were also used by MK for self-reference and represent the major part of his 2ps reversal activity: *ň č* (you)+2psMV; 2psMV; 2psEXT and 2psSW. Table 6 shows the distribution of these 2ps reversal constructions.

Most of M's reversals were expressed by 2ps verb constructions (M=83%). These included verbs marked for 2ps *including* the personal pronoun (*ň č*(you)+2psMV) and verbs marked for 2ps *omitting* the personal pronoun (2psMV).

Inclusion of ňč *(you) in 2ps verb constructions*

When included, the reversed 2ps personal pronoun *ň č* (you) served to strengthen the force and meaning of MK's turns. Including the 2ps personal pronoun allowed

Table 6. MK's 2ps reversal T1-T4

	Time				
	T1	T2	T3	T4	Total
ňč (you) + 2psMV	22	9	52	41	124
2psMV	59	30	32	7	128
2psEXT	3	4	10	16	33
2psSW	0	1	13	2	16
Total	84	44	107	66	301

MK to produce the following five expressive speech acts: impatience, protest, negation, control and insistence. Examples for each are provided.

Impatience. Mother asks MK to sing her a song. She repeats her request, suggesting several songs. Three times, following each request MK responds with the 2ps verb, *çŕáóâ* (forgot). When mother asks a fourth time, MK responds with a loud *Ňč çŕáóâ* (You forgot). Including the *ňč* (you) seems to emphasize MK's impatience and his refusal to comply. Following this, mother drops the topic.

Protest. In response to MK's question "What are we having for supper?" mother explains that she is preparing soup. MK protests, saying he wants liver: *Ďe÷łíî÷ęó ňč áóäĺř żńňč* (Liver (DIM) *you* will eat). To state his protestation and to emphasize his request, MK does two things: he places the subject *ďe÷łíî÷ęó* ((DIM) liver) in first position and follows it with the personal pronoun *ňč* (you).

Negation. While building Lego with mother, who suggests building a house (and who tended to direct joint activities) MK emphasizes his disagreement in the following exchange by placing the personal pronoun *ňč* (you) after the verb: *ÍĺÍ őî÷Íř ňč őŕ ňó* (Not want *you* house).

Control. *Ňč* (you) was included in MK's turns when he attempted to control or direct a joint activity. The tone of these turns is almost competitive, in response to mother's suggestions and attempts to direct the activity. In the example, which follows, MK tries to direct the joint Lego building activity. *Ňč* (you) follows the verb for added emphasis:

Ŕ ňŕě ďîńňŕâčâ ňč ęóňîę áî ňŕě ďîňđłáíčé ęóňîę.
(But there put *you* corner because there is needed corner.)

Insistence. MK's insistence and perseverance can be seen in the following part of a very long speech event. He wants to bring a tray to his father who is sick in bed. His mother will not allow him to do so, saying that father is sleeping.

C: *Ňč Ďŕďł ďđčíĺńĺř ďĺ÷čâî .*
(*You* to Papa will bring pastry.)
M: *Í ł*
(No)
C: *Ňč Ďŕďł ďĺ÷čâî ďđčíĺń(Íř).*
(*You* to Papa pastry will bring.)
M: *Í ł*
(No)
C: *Ňč Ďŕďł â ëłćęî ďđčíĺńĺř ďĺ÷čâî .*
(*You* to Papa to bed will bring pastry.)
M: *Í ł*
(No)

MK tries two more times but mother does not respond. She changes the topic and a lengthy exchange about dump trucks follows. MK then returns to his request, repeats *ň č* (you) in each turn to strengthen his insistence, changes the word order but mother still does not respond:

(i) *Ňč Ďŕďł őo÷Íř ňč ďđčíĺńňč â ëłćęî ďĺ÷čâî .*
(*You* to Papi want *you* to bed bring pastry.)
(ii) *Ňč Ďŕďł ňč őo÷Íř ďĺ÷čâî ďđčíĺńňč.*
(*You* to Papi *you* want pastry to bring.)

For purposes of emphasis, MK begins each of the above two turns with *ň č* (you). In both cases, *ň č* (you) is repeated in the utterance: following the verb in (i) and preceding the verb in (ii).

2PSEXT. MK's 2ps self-reference extended beyond the Nominative *ňč* (you), to the Dative (*ň îáł*), Genitive (*ň Íáĺ*) and Instrumental (*ç ňîáî ţ*) cases. A further extension to the 2ps possessive pronoun Nominative and Accusative, masculine singular *ňâłé* (your), the Genitive feminine *ňâîşż* (your) and the Instrumental *ňâîżě* (with your) cases was noted.

MK's extension of the Nominative *ňč* (you) to other cases closely matches mother's extension expression. For both mother and MK, approximately two-thirds of all extended instances were to the Dative case (63% and 67% respectively).

2PSSW. MK responded to mother's "who?" questions, ("Who wants an apple?") with the single-word *ňč* (you). These one-word responses, though negligible (M=5%), are noteworthy, as they represent the starkest examples of MK's established reversal rule, you = I.

BY NAME. In a very limited number of instances (M=4%), MK referred to himself by name. He used the simplex form, *Ěčęčňŕ* (Mykyta) and the first degree of diminutivization (suffix *-ęa*, *Ěčęčň-ęŕ*, Mykyt-ka). The second degree of

diminutivization (compound suffix *-îíü-ęŕ*, *Ěčęčň-îíü-ęŕ*, Mykyt-on'-ka), was used by the mother, but was not attempted by MK, most likely due to its phonetic complexity. All but one of the 13 instances was in the Nominative case.

1PS CORRECT SELF-REFERENCE. In the midst of the pronominal reversal, a number of instances (11%) of correct 1ps constructions were used by MK for self-reference. Most of these were 1ps verb constructions where the 1ps personal pronoun ˙(I) was included or omitted. 1ps self-reference appeared in short turns, as in *ß ď'ížőŕâ* (I went) and also in longer turns, as in *ß ňŕę ďđč÷ĺď'čâ, řîáâîíî íĺ ëŕěŕëîńü* (I so attached so it not break). The 1ps was also extended to the Genitive case (*ěĺíł*) but mostly to the Dative case (*ěĺíł*).

According to the mother, MK's repeated, almost mechanical, use of the 1ps single-word, idiom-like 1ps verb *äóě ŕ ţ* (I think/believe so) was produced imitatively. On a small number of occasions, however, it was included in a longer spontaneous utterance, as in *Äóě ŕ ţ áóäĺ żőŕ ň č* (I think will go).

The production of 1ps constructions showed no evident pattern, did not appear in any particular context, and were interspersed with MK's dominant 2ps self-reference reversal expressions.

Summary

MK's self reference

Like mother's 2ps-dominated pronominal input, MK's self-reference is governed by 2ps constructions. The glaring and intriguing difference is that unlike mother's correct 2ps pronominal constructions, MK's 2ps use is characterized by reversal or failure to make the obligatory shift in reference. In referring to himself, MK applies those constructions which mother used in reference to him. Although semantically incorrect, these 2ps constructions were syntactically correct and worked communicatively.

There is a clear match between the kinds of 2ps constructions used by mother and MK. In referring to self, MK uses the same four 2ps constructions found in mother's reference to him: *ň č* (you)+2psMV, 2psMV, 2psEXT and 2psSW.

MK used three strategies to strengthen the force of his 2ps verb construction reversals: (i) include the 2ps personal pronoun *ň č* (you); (ii) repeat the 2ps personal pronoun *ň č* (you) and (iii) change the word order of the utterance. On most occasions, this seemed to be quite effective as he made his will known to mother, negated, exhibited impatience and competed for control during joint activities.

MK adopted mother's 2psEXT lexicon and strategies for self-reference as he extended the 2ps personal pronoun Nominative to other cases in self-reference. Even the frequency of 2psEXT instances is similar for mother's reference to MK and his use of these constructions for self-reference (12 and 11% respectively).

In referring to self by name, MK followed mother's input only partially. While the simplex and first degree diminutive forms were used by MK, the phonetically complex compound diminutive form was not attempted.

Finally, MK's 2ps self-reference reversal constructions were noted more often in spontaneous turns (M=55%) than in response turns (M=44%), evidence that 2ps re-

Table 7. MK's reference to mother T1-T4

	Time				
	T1	T2	T3	T4	Total
2ps *ňčˇ* (you)	6	2	0	4	12
2psIMP	18	4	18	8	48
role name	17	6	25	8	56
joint	27	13	8	13	61
Total	68	25	51	33	177

versal is an established and set part of his language behavior representing more than a mechanical copy of what he hears from mother. This recalls David's reversal of *I* and *you*, also produced mostly during spontaneous speech (Oshima-Takane, 1992).

MK's reference to mother

As expected, MK referred to mother half as often as he referred to himself 177:355. In referring to mother MK used those constructions he has heard in the input in reference to himself: 2ps *ňčˇ* (you), 2psIMP, role name, *ěŕěŕˇ* (mama) and joint reference. All references to mother were semantically and syntactically correct.

Table 7 shows that two-thirds (M=67%) of MK's references to mother were non-2ps constructions, most numerous of which were joint reference constructions. These mirrored mother's 1pp uses and included (i) verbs marked for 1pp *with* and *without* the 1pp personal pronoun *ěčˇ* (we), (ii) the 1ppIMP preceded by the particle-prompt *äŕâŕé* and (iii) extensions of the 1pp personal pronoun *ěčˇ* (we) to the Genitive (*íŕń*), Dative (*íŕěˇ*), Accusative (*íŕń*), Instrumental (*íŕěčˇ*), and Locative (*íŕń*) cases.

2ps constructions made up one-third (M=32%) of all of MK's references to mother and included correct 2ps *ňčˇ* (you) constructions and 2psIMP. Correct use of 2ps *ňčˇ* (you) for reference to mother was limited (M=7%) and like the correct use of 1ps ˙(I) there appeared to be no evident pattern or special context of use. However, it is interesting to note that in comparison with correct 1ps ˙(I) self-reference use, correct 2ps *ňčˇ* (you) in reference to mother was less frequently noted (M=11:7%).

MK's use of the 2psIMP was used most often in competitive contexts characterized by a disagreement or difference of plan/action between mother and child.

Other pronouns

The recordings reveal that MK's incorrect and repeated use of the 2p personal pronoun for self-reference represents only one part of his otherwise extensive, productive and correct pronominal system. Even though correct use of 1ps personal pronoun ˙(I) for self-reference and 2ps personal pronoun *ňčˇ* (you) for reference to mother were negligible, 3ps pronouns (all 3 genders: *âłí* (he), *âîíŕ* (she) and *âîíî* (it)) were widely used. 3pp personal pronoun plural *âîíčˇ* (they) was used least often. In light of such correct and complex pronominal use, M's 2ps reversal emerges all the more unusual and can be viewed as a unique part of his otherwise advanced cognitive and linguistic development (Dale et al, 1993).

In sum, MK's references to mother mirrored the joint constructions found in the input. The repeated use of MK's "we" constructions speak to the intimate, almost isolated relationship mother and child shared.

Results and discussion

It can be said with some certainty that MK's reversal behavior originates as imitation of mother's uses of *ňč* (you) which he hears in reference to himself. Imitation, then, in contrast to previous explanations of children's pronoun reversal activity, is viewed here as a starting point, a processing strategy which leads MK to form a hypothesis about the meaning of *ňč* (you) (albeit an incorrect one) and to formulate the rule *ňč* (you) = I. This leads to the repeated and varied use of *ňč* (you) (Perez-Pereira, 1994) and results in its prolonged "frozen form" status (R. Clark, 1977, p. 352). While direct imitation is most evident in response turns where MK produced mechanical (or near mechanical) copies of mother's uses of *ňč* (you), his spontaneous turns, in addition to the imitated 2ps self-reference personal pronoun, often included one or more expanded and/or creative imitated portions which could be traced back to the input (Perez-Pereira, 1994; Clark, 1977). Imitation, then, plays an important role in those forms, which children are in the process of learning, in the present case, correct use of *ňč* (you).

Two social factors can help further explain MK's repeated uses of *ňč* (you) for self-reference. Firstly, mother's pronominal input or her references to MK is dominated by 2ps constructions. She does not directly provide MK with a correct pronominal model. Her accepting attitude to MK's reversals (a passing comical phenomenon) and her failure to comment on or correct reversals tells MK that all is understood, that reversals work communicatively and that there is no need to change (Oshima-Takane, 1992). Secondly, MK's status in a newly arrived, isolated immigrant family is important. As an only child, he has no opportunity for sibling or child-child confrontational input or interaction. He cannot, then, attend to or learn from shifting references in the speech of other conversation partners and observe how they refer to themselves as speakers and to others as addressees, thus gaining an understanding of the relationship between pronouns and speech roles. While such interaction is not a necessary condition of personal deixis acquisition, there is evidence that it is a facilitating factor (Oshima-Takane, 1992; Deutsch & Pechman, 1978).

Including the personal pronoun *ňč* (you) for emphasis or omitting it altogether, is described here as an affective linguistic choice facing children acquiring the Ukrainian personal pronominal system. A child acquiring the English pronominal system, by way of contrast, where personal pronouns are rarely omitted, does not have such a choice. This recalls the "native language effect" (Girouard et al, 1977) and shows the importance of language-specific features in children's pronominal acquisition.

The present study provides counter evidence for the Processing Complexity Theory (Dale et al, 1993) as length or complexity of turns did not present a "substantial processing load" for MK. The use of *ňč* (you) for self-reference was noted in short simple utterances as well as in longer, syntactically and semantically complex utterances.

Also, the findings lend some support to the pronoun reversal and linguistic precocity correlation. According to Dale et al (1993), MK would qualify as a "risk taker",

a precocious language-learner who habitually makes his incomplete knowledge apparent as he repeatedly reverses the 2ps personal pronoun *ňč* (you).

MK's correct pronoun use is both compatible and incompatible with earlier reports. His somewhat more frequent correct use of ˙(I) than the correctly produced *ň č* (you) matches the simple to complex order of acquisition of personal deixis whereby children acquire the least complex deictic contrast *I*, which involves a single person before they acquire the more complex contrast, *you* which involves two persons (Clark, 1977; Deutsch & Pechman, 1978).

The frequency of MK's correct 1ps for self-reference and his 2ps in referring to mother appears to match the Semantic Complexity hypothesis. However, his extensive and correct use of other pronouns, usually mastered later than *I* and *you*, reflects his linguistic precocity and speaks to the unique and individual path of his personal pronoun mastery and acquisition.

Conclusions

MK's single-pronoun reversal, driven by a fixed-referent hypothesis, differs from previous reports of pronominal reversal behavior noted in the speech of normally developing children. Unlike other children investigated, MK reversed only one pronoun and his reversal behavior was characterized by variation and consistency.

Imitation plays an important role in pronoun reversal and is viewed here as the initial processing strategy adopted by MK in his understanding and use of the 2ps personal pronoun *ňč* (you). This is followed by "semantic confusion" (Oshima-Takane, 1992) or MK's inability to understand the grammatical and semantic rules which govern the uses of *ňč* (you). Social factors, such as family context and the nature of the input are considered strong determinants of pronominal reversal activity. The study provides strong evidence for the Person-Name Hypothesis in the adoption of MK's you = I rule, supports a linguistic precocity-reversal correlation, and provides counter evidence for the Processing Complexity Theory. The study lends some support to the "native language effect" showing that specific features of the pronominal system being acquired may contribute to the course of pronoun development and possible reversal.

MK's 2ps personal pronoun reversal can be described as a mirror image of that which he hears in the input. If mirror image is defined as "something that has its parts reversely arranged in comparison with another similar thing" (Webster dictionary) then MK has "reversely arranged" mother's 2ps personal pronoun constructions and repeatedly used them for self-reference. Instead of directing the 2ps personal pronoun to mother, he turns it onto his own person.

Pronoun reversal, a normal though rare phenomenon, merits further investigation. Future research should focus on pronoun reversal in languages other than English. Crosslinguistic data from languages with minimal pronominal distinctions to languages with extensive pronominal distinctions would shed more light on how specific pronominal features could lead to reversal activity. This, in turn, would result in the construction of a more detailed and universally valid theoretical explanation of pronoun reversal.

A question one is left with after reading the present study is "When did MK finally begin to correctly use 1ps for self-reference and 2ps in referring to mother?" Conversations with the mother nine months after the recordings (when MK was 3;09) revealed that mother and child were beginning to settle into their new surroundings and that MK was enrolled in a part-time Ukrainian-speaking nursery school. Initially he was withdrawn, almost cautious, but with time, he grew to enjoy being with other children. His interactions with other children started slowly and seemed to grow quickly, showing him to be quite sociable. When asked about the "you" for self-reference, the mother laughed and said that there was "very little of it remaining". This speaks to the importance of the social factors in the acquisition of language generally, and to the importance of attending to speech addressed to others in the learning and understanding of speech roles and obligatory shifts in reference specifically.

References

Bain, R. (1936). The self- and other-words of a child. *American Journal of Sociology* 41, 767-775.

Bettleheim, B. (1967). *The empty fortress: infantile autism and the birth of the self*. New York: Free Press.

Bilodid, I.K. (Ed.) (1969). *Sucasna ukrainska literaturna mova: Morfolohija*. Kiev: Naukova Dumka.

Charney, R. (1980). Speech roles and the development of personal pronouns. *Journal of Child Language* 7, 509-528.

Chiat, S. (1981). Context-specificity and generalization in the acquisition of pronominal distinctions. *Journal of Child Language* 8, 75-91.

Chiat, S. (1982). If I were you and you were me: the analysis of pronouns in a pronoun-reversing child. *Journal of Child Language* 9, 359-379.

Chumak-Horbatsch, R. (1994). Ukrainian single-word use: a case study. *First Language* 14, 173-194.

Clark, E. V.(1978). From gestures to word: On the natural history of deixis in language acquisition. In J. S. Bruner & A. Garton (Eds.), *Human Growth and Development: Wolfson College lectures 1976*. Oxford: Clarendon Press.

Clark, R. (1977). What's the use of imitation? *Journal of Child Language* 4, 341-358.

Cooley, C.H. (1908). A study of the early use of self-words by a child. *Psychological Review* 15, 339-357.

Dale, P.S. & Crain-Thoreson, C. (1993). Pronoun reversals: who, when, and why? *Journal of Child Language* 20, 573-589.

Deutsch, W. & Pechman, T. (1978). Ihr, dir, or mir? On the acquisition of pronouns in German children. *Cognition* 6, 155-168.

Deutsch, W., Wagner, A., Burchardt, R., Schulz, N., Nakath, J. (1997). Person in the language of singletons, siblings and twins. In S. Levinson & M. Bowerman (Eds.), *Language acquisition and conceptual development*. Cambridge: Cambridge University Press.

Fay, W.H. (1971). On normal and autistic pronouns. *Journal of Speech and Hearing Disorders* 36, 242-249.

Fay, W.H. (1979). Personal pronouns and the autistic child. *Journal of Autism and Developmental Disorders* 9, 247-260.

Fraiberg, S. & Adelson E.(1973). Self-representation in language and play: observations of blind children. *Psychoanalytic Quarterly* 42, 539-562.

Girouard, P.C., Ricard, M. & Gouin Decarie, T. (1997). The acquisition of personal pronouns in French-speaking and English-speaking children. *Journal of Child Language* 24, 311-326.

Jespersen, O. (1922). *Language, its nature, development and origin.* London: Allen & Unwin.

Kaper, W. (1976). Pronominal case-errors. *Journal of Child Language* 3, 439-441.

Kiebzak-Mandera, D., Smoczyńska, M., Protassova, E. (1997). Acquisition of Russian verb morphology: the early stages. In Dressler, W.U. (Ed.), *Studies in pre- and protomorphology* (pp. 101-114).

Loveland, K. A. (1984). Learning about points of view: spatial perspective and the acquisition of 'I/you'. *Journal of Child Language* 11, 535-556.

McGhee, P. (1979). Humor, its origin and development. San Fransisco: Freeman.

Medushevsky, A. & Zyatkovska, R. (1963). *Ukrainian grammar*. Kiev: Radyanska Skola.

Oshima-Takane, Y.(1988). Children learn from speech not addressed to them: the case of personal pronouns. *Journal of Child Language* 15, 95-108.

Oshima-Takane, Y. (1992) Analysis of pronominal errors: a case study. *Journal of Child Language* 19, 111-31.

Perez-Pereira, M. (1994). Imitation, repetition, routines and the child's analysis of language: insights from the blind. *Journal of Child Language* 21 , 317-337.

Richards, J.C., Platt, J. & Platt, H. (1992). *Dictionary of language teaching and applied linguistics.* Harlow: Longman.

Shipley, E.F. & Shipley, T.E. (1969). Quaker children's use of thee: a relational analysis. *Journal of Verbal Learning and Verbal Behavior* 8, 112-117.

Tanz, C. (1974). Cognitive principles underlying children's errors in pronominal case-marking. *Journal of Child Language* 1, 271-276.

Wells, G.C.(1980). Apprenticeship in meaning. In K. Nelson (Ed.), *Children's language. Vol.2*. New York: Gardner Press.