6 The Acquisition of Polish*

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INTRODUCTION

1. Descriptive Sketch of Polish

1.1. General Typological Characteristics

Polish is an Indo-European language, belonging to the Slavic branch. Within the Slavic branch, Polish represents one of the North Slavic languages, as different from South Slavic (Serbo-Croatian, Bulgarian, etc.). The North Slavic group

*The present chapter includes some sections written by Dr. Richard M. Weist, who was asked to give a first-hand account of his research conducted at Adam Mickiewicz University and SUNY College, Fredonia. These sections are indicated by [WEIST] at the beginning and end of each section. Due to the communication problems caused by the situation in Poland during the completion of work on this book, Dr. Weist undertook the job of developing and editing the first draft of my chapter as a favor to me. He has contributed enormously to the final formulation of my text, and I would like to express my deepest gratitude for his cooperation. I would also like to thank my colleague and friend, Dr. Elżbieta Tabakowska from Jagiellonian University, Kraków, who helped me with the English formulation of the original draft.

is further subdivided into West Slavic languages including Polish, Czech, Slovak, etc., and East Slavic (Russian, Ukrainian, etc.).

Like other Slavic languages, Polish represents an inflecting, or fusional type of language, in which single grammatical morphemes combine several functions: case, gender, and number in noun forms; person and number in verb forms. However, Polish is less close to the ideal model of an inflecting language than Czech or Slovak. Lotko (1979) gives many examples of replacing synthetic means of expression by analytical ones in contemporary Polish. In general, the Polish grammatical system closely parallels that of Russian.

Because Polish retains a rich inflectional system, morphology is the main device for expressing syntactic distinctions. Word order has grammatical functions only to a limited extent, and hence it can serve other purposes, namely, it performs pragmatic functions. Deviations from the standard (unmarked) SVO order serve the purposes of topicalization; and combined with focal stress, word order expresses special emphasis on certain elements, in a way independent from discourse structure. Furthermore, the rich inflectional system makes it possible to apply ellipsis to a much larger extent than in English. A selective outline of Polish morphology and syntax is provided in Sections 1.2 and 1.3. The interested reader will profit from Schenker's (1967, 1973) comprehensive and well-organized description of Polish grammar and Fisiak, Lipińska-Grzegorek, and Zabrocki's (1978) Polish-English contrastive grammar.

1.2. *Morphology*

There are some relevant differences between Slavic and English morphology. In English, the basic word form is the stem. The same stem can constitute the basic form of both noun and verb, e.g. *change, drink.* The form STEM + Ø usually performs numerous functions, and the use of inflectional endings is greatly limited. The form STEM + ENDING occurs in opposition to the basic form, e.g. *ball-s/ball, Mommy-'s/Mommy, drink-s/drink, want-ed/want,* etc. Thus, in English one can talk about the acquisition of particular grammatical morphemes, as is actually done in Brown (1973), de Villiers and de Villiers (1973), and others.

In Slavic languages, bare stems, i.e. forms with a zero ending, are rare, and in most cases, the word stem can never occur alone. Hence, the concept of a word stem is a mere abstraction which can be formed by cutting off the common part that occurs in various forms of a word from the array of possible endings. Even those forms which are functionally unmarked, e.g. nominative singular of nouns or infinitive of verbs, have specific endings, and a given ending explicitly specifies the grammatical category of the word. Moreover, in view of the rich variety of inflectional forms of a word, a given form occurs in opposition to the whole inflectional pattern, rather than to the basic form only. Therefore, morphological development should be conceived of as the acquisition of the ability to REPLACE grammatical morphemes according to the rules of language, rather than the ability to ADD them to basic forms when required.

In consequence, although Polish children can very easily split a word form into a stem and an ending (as illustrated by their own morphological formations, differing from adult forms), the basic unit of the text is a WORD rather than a morpheme. In Polish this is additionally strengthened by fixed penultimate word stress. In contrast to Polish, word stress is mobile in Russian and Serbo-Croatian. Free morphemes are not numerous in Polish, and their status is entirely different from that of bound morphemes. Furthermore, most Polish endings are syllabic, whereas in English many of them are nonsyllabic. Thus their presence does not affect the prosodic shape of the word (equal to stem).

The purpose of this section on morphology is to provide the reader with a sketch of the declensional and conjugational patterns of Polish. Hence, the description which follows has been simplified in many ways. In some areas, the nature of the simplification will be identified so that the reader can appreciate the complexity of the overall system. However, in many instances the relationship between this brief sketch and the full system will not be identified. The reader seeking an understanding of the full system should consult another source, such as Schenker (1973).

1.2.1. *Nouns.* Nouns are marked for gender, and they are inflected for case and number. The relationship between the cases and their most typical semantic and syntactic functions is presented in Table 6.1, and the basic regular declensional patterns are outlined in Table 6.2. Gender serves as the basis for the classification of nouns into declensional patterns. Singular nouns have one of three genders: feminine, masculine, or neuter. The masculine and neuter patterns are relatively similar as contrasted with the feminine pattern. In the plural, there are two genders: virile (VIR) and nonvirile (NVIR), where virile includes the

TABLE 6.1
The Polish Cases and Their Most Typical Functions [WEIST]

Case	*Semantic Function*	*Syntactic Function*	*Key Wh Question*
Nominative (NOM)	Agent	Subject	Who
Accusative (ACC)	Patient	Direct Object	Whom
Genitive (GEN)	Possessor	Possessive	Whose
Dative (DAT)	Receiver	Indirect Object	To whom
Locative (LOC)[a]	Location	Adverbial	On what/where
Instrumental (INSTR)	Instrument/Comitative	Adverbial	With what/whom
Vocative (VOC)	The case used when addressing someone		

[a]The locative case is also referred to as the prepositional case.

TABLE 6.2
The Basic Declensional Patterns

Case	Feminine (FEM)	Masculine (MASC)	Neuter (NEUT)
	Singular (SG)		
NOM	-a	-ø	-o/-e
ACC	-ę	[AN] = GEN/[INAN] = NOM	= NOM
GEN	-y/-i [SFC]	-a/(-u)	-a
DAT	-e/-i [SFC]	-owi/(-u)	-u
LOC	= DAT	-e/-u [SFC]	-e/-u [SFC]
INSTR	– ą	-em	-em
	Plural (PL) with Virile (VIR)/Nonvirile (NVIR)		
NOM	-y/-i, (-e) [SFC], -a [NEUT], -owie [VIR]		
ACC	[NVIR] = NOM/[VIR] = GEN		
GEN	-ø [−MASC]		-ów/(-y/-i) [+MASC]
DAT		-om	
LOC		-ach	
INSTR		-ami (-mi)	

[ ] = criterion, e.g. animate [AN].
SFC = stem final consonant (hard/soft or other).
( ) = less frequent suffix.

features masculine and human.[1] In the plural, the dative, locative, and instrumental suffixes are identical, regardless of gender. The nominative and accusative suffixes are conditioned by the virile versus nonvirile distinction and the genitive endings depend on the masculine versus non-masculine distinction. Throughout the declensional system specific suffixes are sometimes controlled by the morphophonological properties of the noun stem, e.g. hard versus soft stem-final consonants. Furthermore, it is important to note that the speaker's task consists not only in the selection of an appropriate ending but also in performing necessary modifications of the phonological form of the stem. Some of such stem alternations result from general phonological rules. In most instances, however, they are governed by narrow morphophonological rules only.

1.2.1.1. **[WEIST]** *Cases and Functions.* One of the basic problems that the child (or any other listener) faces is to extract information about semantic functions, e.g. agent versus patient, from the surface structure. If a simple

[1]Polish seems to be the most sex-biased of all Indo-European languages. Russian has the animate/inanimate distinction in plural for all nouns and Serbo-Croatian preserves the masculine, feminine, and neuter distinction.

transitive sentence contains two feminine singular nouns, there is no ambiguity within the basic declensional pattern as shown in sentence 1.[2] In sentence 1,

(1)	*Dziewczynk-a*	*pcha*	*matk-ę*
	girl-FEM:NOM:SG	pushes	mother-FEM:ACC:SG
	'(A) girl is pushing (the) mother.'		
(2)	*Dziewczynk-i*	*pchają*	*matk-i*
	girl-NVIR:NOM/ACC:PL	push	mother-NVIR:ACC/NOM:PL
	'Girls are pushing mothers'	or	'Mothers are pushing girls.'
(3)	*Chłopiec-ø*	*goni*	*ojc-a*
	boy-MASC:NOM:SG	chases	father-MASC:ACC:SG
	'(A) boy is chasing (the) father.'		
(4)	*Samochód-ø*	*goni*	*autobus-ø*
	car-MASC:NOM/ACC:SG	chases	bus-MASC:ACC/NOM:SG
	'(A) car is chasing (the) bus'	or	'(A) bus is chasing (the) car.'

the word *dziewczynk-a* 'girl' has the nominative singular suffix *-a* which indicates (in this context) that the girl is the one who is initiating the action, and the word *matkę* 'mother' has the accusative singular suffix *-ę* which specifies that the mother is somehow affected by the action. The meaning is the same if we change the word order: *Matkę pcha dziewczynka, Pcha dziewczynka matkę,* etc. Ambiguity can arise if these nouns are plural nouns since the nominative suffix is the same as the accusative for nonvirile nouns, as demonstrated by sentence 2. If the two nouns in a transitive sentence are masculine singular and animate, the nominative and accusative suffixes are distinct, e.g. *chłopiec* and *ojciec* in the nominative case and *chłopca* and *ojca* in the accusative case. However, if the masculine nouns are NOT animate the suffixes in the nominative and the accusative case are identical as shown in sentence 4.

(5)	*Siostr-a*	*Michał-a*		*zjadła*
	sister-FEM:NOM:SG	Michael-MASC:GEN:SG		ate
	ciast-o	*pod*	*stoł-em*	*w*
	cake-NEUT:ACC:SG	under	table-MASC:INSTR:SG	in
	kuchn-i			
	kitchen-FEM:LOC:SG			
	'Michael's sister ate (the) cake under (the) table in (the) kitchen'			

(6)	*Chłopc-y*	*zjedli*	*ciast-a*	*z*
	boy-VIR:NOM:PL	ate	cake-NEUT:GEN:SG	with

[2]For a guide to pronunciation, see Appendix A.

rodzynk-ami.
raisin-NVIR:INSTR:PL

'The boys ate some cake with raisins'

(7)

Michał-ø	*nie*	*jadł*	*ciast-a*
Michael-MASC:NOM:SG	not	ate	cake-NEUT:GEN:SG

palc-ami.
finger-NVIR:INSTR:PL

'Michael did not eat (the) cake with (his) fingers'

(8)

Chłopiec-ø	*poszedł*	*do*	*sklep-u*	*z*
boy-MASC:NOM:SG	went	to	shop-MASC:GEN:SG	with

siostr-ą.
sister-FEM:INSTR:SG

'(The) boy went to the shop with (his) sister'

(9)

Dziewczynk-a	*czytała*	*brat-u*	*o*
girl-FEM:NOM:SG	read	brother-MASC:DAT:SG	about

zwierzęt-ach.
animal-NVIR:LOC:PL

'(The) girl read to (her) brother about animals.'

The above examples serve to demonstrate that the functions of cases are not limited to those presented in Table 6.1. The genitive, for instance, is not only the Possessor's case (as in sentence 5) but also expresses the Partitive (sentence 6), the Direct Object of negated sentences (sentence 7), the Location in the expression 'to the shop' (sentence 8), etc. Similarly, the instrumental is not only the expression of Instrument (as in sentence 7: 'with fingers') but also a Comitative: 'with raisins' and 'with sister' (sentences 6 and 8), as well as the Location 'under the table' (sentence 5). The locative not only expresses Location (as in sentence 5) but also figures in a prepositional phrase 'about animals' which is not a Location (sentence 9). As for the locative case, which is also referred to as the prepositional case, it is worth noting that both its names are misleading: in fact, other cases serve to express location as well, and other cases are used with prepositions. For instance, while *na* 'on' and *w* 'in' require the locative to express static location, when used with the accusative they express dynamic notions of 'onto', 'into'. Prepositions *do* 'to', *od* 'from' require the genitive, while *pod* 'under', *nad* 'over', *za* 'behind' govern the instrumental case. The same prepositions, however, when used with the accusative express motion: 'to go under/over/behind something'. Among Polish cases, it is the genitive which has the widest range of functions, while the use of the dative is relatively the most limited, i.e. Receiver, Beneficiary, Experiencer. In addition to these points concerning the relationships between the cases and semantic and syntactic functions, sentences 1–9 show clearly the sense in which Polish is an inflecting language. Each suffix combines the concepts of gender, case, and number. Furthermore, the individual suffixes can only be understood within the context of a declensional pattern. Hence, the suffix *-a* [a] has the nominative singular function in the feminine pattern, the genitive (and/or) the accusative function in the masculine pattern, and the accusative and nominative plural function in the neuter pattern. [**WEIST**]

1.2.2. *Adjectives.* Adjectives agree in case, number, and gender with the noun they modify. The declension of adjectives is relatively regular: there are five different patterns corresponding to the five genders (three in singular, two in plural). Comparative and superlative degrees are formed also rather regularly by adding special suffixes and prefixes. With some classes of adjectives only analytical forms can be used.

1.2.3. *Adverbs.* Adverbs are primarily derived from adjectives by means of suffixes. They are not declined. Comparative and superlative degrees are formed according to rules similar to those for adjectives.

1.2.4. *Numerals.* While ordinals are declined according to the regular adjective pattern, the declension of cardinal numerals is a loose collection of exceptions rather than a system. Every honest native speaker of Polish would confess making occasional mistakes with these forms or at least admit that the choice of the correct form requires an intensive intellectual effort on his or her part.

1.2.5. *Pronouns.* Most pronouns are declined according to the regular adjectival pattern, but the case forms of personal pronouns are highly idiosyncratic. Furthermore, oblique cases of personal pronouns have special enclitic short forms, distributed according to special rules.

Another peculiarity is the existence of special reflexive pronouns, which replace the personal or possessive pronoun when the person to which it refers coincides with the sentence subject. For instance, the English sentences *I think about myself, You think about yourself, They think about themselves* are translated into Polish as *Myślę o sobie, Myślisz o sobie, Myślą o sobie,* where a single reflexive pronoun, *sobie,* is used with no distinction for number or gender. Similarly, the following set of sentences reveals the contrasts for possessives: *On bierze moje książki* 'He takes my:1SG books', but *Biorę swoje książki 'I:take my:REFL books'*; and compare *Biorę jego książki* 'I:take his:3SG:MASC books' with *On bierze swoje książki* 'He takes his:REFL books'. The use of the third person singular pronoun in the last example (*On bierze jego książki* 'He takes his books') would specify that the owner of the books and the agent are two different persons.

In general, possessive pronouns are used less frequently than in English. For instance, in the above examples the possessive reflexive is most frequently omitted and such terms as body parts or kinship terms are usually used without possessive pronouns, unless the "possessor" happens not to be identical with the agent. Thus, a literal translation of the English, *I wash my hands,* would seem queer in Polish, unless the speaker wanted to stress that he is not washing somebody else's hands. Furtheremore, many English constructions with a possessive are rendered in Polish by means of a construction with the benefactive (in dative): *I wash his hands,* translates as *Myję mu ręce* 'I:wash to:him hands'.

1.2.6. *Verbs.* Finite and nonfinite forms of the verb are marked for aspect. Finite forms are inflected for tense, mood, person, number, and in some instances gender.

1.2.6.1. *Aspect.* The major aspectual distinction in Polish is between perfective and imperfective, and Polish also has an iterative aspect. These distinctions are clearly marked in the morphology (see Majewicz, 1982). While the meaning of perfectivity is still debated (e.g. Ferrell, 1951; Ridjanović, 1976), we will take the position that perfective verbs specify the notion of a completed situation, i.e. a situation which has a beginning, a continuation, and a termination (see Comrie, 1976). The imperfective aspect is neutral and the imperfective verb form does not specify whether the action is completed or not. The selection of aspectual form depends on perspective. Given that a situation is in fact completed, the speaker may refer to that situation with a perfective or imperfective verb form. The perfective form is chosen if the speaker intends to identify the property of completion in the situation. However, if reference is made to a situation which is not completed, only an imperfective verb can be used.

For most verbs, the imperfective form is morphologically simpler, and the perfective form is derived from it. This is done by means of adding either a prefix, e.g. *pisać/na-pisać* 'to write' (IPFV/PFV) or a suffix, e.g. *kop-a-ć/kop-nų-ć* 'to kick' (IPFV/PFV). For some aspectual pairs, both terms do not differ in morphological complexity. Each of them includes a stem and a suffix, and the aspectual opposition is indicated by the kind of suffix used, e.g. *strzel-i-ć/strzel-a-ć* 'to shoot' (PFV/IPFV). For many verbs of this group the suffix alternation is accompanied by the stem alternation as well, e.g. *otworz-y-ć/otwier-a-ć* 'to open' (PFV/IPFV). Suffix alternation usually implies the shift of the verb to another conjugation type. For a dozen other verbs, the basic form is perfective and the imperfective form is derived from it, e.g. *dać/dawać* 'to give' (PFV/IPFV); *wstać/wstawać* 'to get up" (PFV/IPFV).

As has already been said, for most verbs perfective forms are derived from the imperfective and the number of verbs in which the derivation goes the other way is rather limited. There is, however, another (very frequent) process which consists of deriving imperfectives from prefixed perfective forms. In the example cited above, *pisać/na-pisać* 'to write' (IPFV/PFV), the prefix *na-* is added to the simple imperfective form to make a perfective form. This particular prefix does not carry any particular meaning except for that of perfectivity. There are, however, other prefixes which can be added to the imperfective *pisać* and which serve two functions at one time. They perfectivize the verb and carry additional meanings roughly corresponding to those expressed by verbal particles in English, e.g., (1) *pod-pisać* 'to sign' (PFV) *pod-* 'under', (2) *wy-pisać* 'to write out' (PFV) *wy-* 'out', (3) *prze-pisać* 'to copy' (PFV) *prze-* 'through', (4) *przy-pisać* 'to ascribe' (PFV) *przy-* 'at', (5) *w-pisać* 'to write in' (PFV) *w-* 'in', (6) *do-pisać* 'to add to' (PFV) *do-* 'to', and (7) *od-pisać* 'to crib' (PFV) *od-* 'from'. Since all these verbs are perfective and their meanings differ from that of the imperfective simple verb *pisać,* their aspectual counterparts are derived from them by means of suffixation, e.g. *pod-pis-ywa-ć, wy-pis-ywa-ć,* etc. Such forms are called secondary imperfectives. Finally, aspectual pairs can be suppletive, each of the terms based on a different stem, e.g., *brać* (IPFV)/*wziąć* (PFV) 'to take,' *widzieć* (IPFV)/*zobaczyć* (PFV) 'to see'.

1.2.6.2. *Finite Forms.* The conjugation of the Polish verb is illustrated in Table 6.3, where all the finite forms of the verb *pisać/napisać* 'to write' are given.

There are three moods in Polish: indicative, conditional, and imperative. The tense system is very simple and it involves three tenses only: present, past, and future. The tense distinction appears in the indicative mood only, and its full realization concerns imperfective verbs. Perfective verbs lack the forms of present tense, since the notion of perfectivity precludes the simultaneity of action with the moment of speaking; thus they have only past and future forms. For perfective verbs, forms corresponding to those of present (in imperfective verbs) are used to express futurity, while for imperfective verbs a separate analytic construction is used. It involves the auxiliary *będę* 'I:will' followed either by the "past participle" (see below): *będę pisał* (MASC), *będę pisała* (FEM), *będzie pisało* (NEUT), *będziemy pisali* (VIR), *będziemy pisały* (NVIR) or by the infinitive: *będę pisać, będziemy pisać,* with no distinction of gender. The choice of the form (past participle vs. infinitive) is optional.[3]

It should be noted that each verb has at least two stems. Stem I, called the "present tense stem" (here: *pisz-*) appears in present forms (both "true" present of imperfective verbs, and "formal" present, in fact, future of perfective verbs) and in imperative forms. Stem II, called, the "infinitive stem," occurs in past tense indicative forms (including the "past participle" of the analytic future) and in conditional forms. What is more, many verbs require additional stem alternations WITHIN a given inflectional paradigm, e.g. *bior-ę* 'I-take' but *bierz-esz*

[3]In Polish, the analytic future is ungrammatical with perfective verbs, while in Serbo-Croatian it is a regular form.

TABLE 6.3
Finite Forms of the Verb *pisać/napisać* 'to write'

	Aspect			
	Imperfective (IPFV)		*Perfective (PFV)*	
Indicative Present				
SG	1. *pisz-ę*			
	2. *-esz*			
	3. *-e*			
PL	1. *pisz-emy*			
	2. *-ecie*			
	3. *-ą*			
Future				
SG	1. *będ -ę* *pisa-ł-* {*∅* / *a* / *o*}	MASC / FEM / NEUT	1. *na-pisz-ę*	
	2. *będzi-esz* or		2. *na-pisz-esz*	
	3. *-e* *pisa-ć*		3. *-e*	
PL	1. *będzi-emy* *pisa-* {*l-i* / *ł-y*}	VIR / NVIR	1. *na-pisz-emy*	
	or			
	2. *-ecie* *pisa-ć*		2. *-ecie*	
	3. *będ -ą*		3. *-ą*	
Past				
SG	1. *pisa-ł-* {*∅* / *a* / *o*} + *m*	MASC / FEM / NEUT	1. *na-pisa-ł-* {*∅* / *a* / *o*} + *m*	MASC / FEM / NEUT
	2. + *ś*		2. + *ś*	
	3. + *∅*		3. + *∅*	
PL	1. *pisa-* {*l-i* / *ł-y*} + *śmy*	VIR / NVIR	1. *na-pisa-* {*l-i* / *ł-y*} + *śmy*	VIR / NVIR
	2. + *ście*		2. + *ście*	
	3. + *∅*		3. + *∅*	
Conditional				
SG	1. *pisa-ł-* {*∅* / *a* / *o*} + *by-m*	MASC / FEM / NEUT	1. *na-pisa-ł-* {*∅* / *a* / *o*} + *by-m*	
	2. *-ś*		2. *-ś*	
	3. *-∅*		3. *-∅*	
PL	1. *pisa-* {*l-i* / *ł-y*} + *by-śmy*	VIR / NVIR	1. *na-pisa-* {*l-i* / *ł-y*} + *by-śmy*	
	2. *-ście*		2. *-ście*	
	3. *-∅*		3. *-∅*	
Imperative				
SG	1. —		1. —	
	2. *pisz-∅*		2. *na-pisz-∅*	
	3. —		3. —	
PL	1. *pisz-my*		1. *na-pisz-my*	
	2. *-cie*		2. *-cie*	
	3. —		3. —	

'you-take', with the alternation */b'or/ : /b'ež/* within Stem I, as opposed to Stem II: */bra/* in *bra-ć* 'take-INF' (cf. stem alternation in the auxiliary *będę/będziesz* in Table 6.3). Stem selection is the major difficulty in Polish conjugation. In respect to stem alternations, Tokarski (1973) distinguishes among 11 groups of verbs, some of them further subdivided. For many of those "regular" groups it is not sufficient to know the infinitive and the present tense form in order to be able to predict all the alternations involved. Moreover, a number of verbs are quite irregular.

The forms which are especially interesting are those of the past tense and of the conditional mood. Their peculiarity consists of their agglutinative structure (Tokarski, 1973), quite atypical for Polish. In these forms, each category is expressed by a separate morpheme. The rule of past tense formation can be phrased as follows:

	[INFINITIVE STEM +	PAST +	GENDER] +	PERSON
e.g.	*pisa-*	*-ł-*	*-a-*	*-ś*
	write	PAST	FEM	2SG

The conditional is derived from the past tense form by inserting the special article *by,* which results in:

	[INFINITIVE STEM +	PAST +	GENDER] +	[CONDITIONAL +	PERSON]
e.g.	*pisa-*	*-ł-*	*-ø-*	*-by-*	*-m*
	write	PAST	MASC	COND	1SG

Yet another peculiarity lies in the fact that these forms are not fully synthetic: they are composed of the "past participle" (PP): [INFINITIVE STEM + PAST + GENDER] and the movable ending: PERSON in past tense forms, and [CONDITIONAL + PERSON] in conditional forms. The past participle forms a prosodic entity: it is regularly stressed on the penultimate syllable, whether followed by the ending or not, and it is an autonomous word (e.g. when used with the auxiliary *będzie* to form the analytic future).[4] Past participles: *pisał* (MASC), *pisała* (FEM), *pisało* (NEUT), *pisali* (VIR), and *pisały* (NVIR) coincide with the third person past forms, since these forms have a zero marker for PERSON. On the other hand, past and conditional forms are not analytic either, since the movable endings are not words *per se.* They can either follow the participle, without altering its stress, or they are moved towards the beginning of the clause, usually to follow the first stressed unit, e.g. *Co ty napisała-ś?* or *Co-ś ty napisała?* 'What have you written?'

[4]Even if the ending follows the verb, its presence does not affect the regular penultimate stress pattern of the past participle: *pisáli-śmy, písał-bym, pisála-bym,* etc.

The endings which are most frequently moved to the front of the clause are the syllabic ones, which are enclitic. These include the first and second plural of the past tense *-śmy, -ście,* and all the conditional endings: *–by-m, -by-ś, -by* for singular and *-by-śmy, -by-ście, -by* for plural. In spoken language, *Dlaczego-śmy to napisali?* is more natural than *Dlaczego to napisali-śmy?* 'Why did we write that?' and *Ja by-m to napisała* is much more frequent than *Ja to napisała-bym* 'I would write that'.

All these peculiarities result from the fact that the Polish past tense historically comes from an analytic construction (*pisał jeśm*), and the present state is that of a transitional form, neither fully analytic nor fully synthetic. In Serbo-Croatian the corresponding forms preserve their analytic status, e.g. *ja sam pisao, ja bih pisao,* with regular auxiliaries. In Russian the auxiliary disappeared completely, and the person distinction is expressed by the pronoun only, e.g. *ja pisal, ty pisal,* etc. It is worth noting that Polish marks person in the endings of all the finite forms, and this is why personal pronouns are not used unless special emphasis is required. English *I write* or *I am writing* translates simply as *Piszę,* while *Ja piszę* would mean 'It is I who am writing' or 'As for me, I am writing'.

Synthetic imperative forms exist for second singular and first and second plural, while the third person forms, as well as that of first singular, are formed periphrastically, e.g. *niech on pisze* 'let him write'. It should be noted that the imperative form is not considered impolite among familiar speakers, and it is used much more frequently than in English.

It has already been noted that the main difficulty of Polish verb inflection consists in stem selection. The choice of endings does not present major problems. Linguists distinguish three conjugation types, based on the present tense vowel: *-e, -i/-y,* or *-a.* Some linguists treat it as stem final vowel, while other consider it as a part of ending, as we did in Table 6.3. Except for the vowel, the sets of endings used in the three conjugation types are very similar. The exception is the first singular ending of the present tense, where two alternative endings occur: *-ę* or *-am* (*pisz-ę* 'I-write' vs. *czyt-am* 'I-read'). (see Table 6.7.)

1.2.6.3. *Nonfinite Forms.* Indeclinable forms comprise infinitives (e.g. *pisać* or *napisać* 'to write') and two gerunds. The present gerund, e.g. *pisząc* (only IPFV) is equivalent to the adverbial clause 'while writing'; and the past gerund, e.g. *napisawszy* has the meaning 'having written' (only PFV). The past gerund is almost never used in spoken language. Apart from these, there are verbal nouns e.g. *pisanie* or *napisanie* '(the action of) writing' (both PFV and IPFV) and two adjectival participles. They are the active participle, e.g. *piszący* 'writing (person)' (only IPFV) and the passive participle, e.g. *pisany* or *napisany* 'written' (both IPFV and PFV). Verbal nouns and adjectival participles are regularly declined according to respective noun and adjective patterns. What has been referred to as "past participle" in Section 1.2.6.2 is only a part of some finite verbal forms and does not occur independently.

Passive participles are used in passive voice constructions. In spoken language, however, these have a limited range of use, as word order flexibility is sufficient for expressing focus, and a number of subjectless active constructions can be used for subject downgrading. Those occurring in spoken language typically involve perfective participles, used in order to refer to a resulting end state of some action, performed by an unspecified agent which is either unknown or evident or simply irrelevant. These cannot be called truncated passives, as full passives are practically never used. They are rather a subclass of attributive sentences making statements about objects.

1.3. *Syntax*

1.3.1. *Simple Sentences.* Most of the basic constructions correspond to those in other Indo-European languages. Thus I will point only to some idiosyncratic structures. There are a number of subjectless constructions with either special impersonal forms used, such as the reflexive verb form *pisze się* or the impersonal participle *pisano* 'one:wrote', or the third plural form without a subject, *piszą* 'they:write' (= 'somebody writes').

Another specific structure is the existential sentence, in which the verb *być* 'to be' is used in the sense of 'to exist, to be present', e.g. *Jest chłopiec-ø* 'is boy-NOM' (= 'There is a boy' or 'The boy is here'), with the negated version *Nie ma chłopc-a* 'not have boy-GEN' (= 'The boy isn't here').

Specific structural patterns are those involving an experiencer in dative, e.g. *Jest mi zimno* 'is me:DAT cold' (= 'I am cold'), *Jest mi smutno* 'is me:DAT sadly' (= 'I am sad')[5] or *Leci mi krew* 'is falling me:DAT blood' (= 'I am bleeding') (cf. Berman, 1985, for a description of identical constructions in Hebrew). The dative experiencer can also be used instead of the nominative subject (i.e. agent) in order to express the lack of a definite agentive intention. Compare *Stłukła mi się filiżanka* 'the cup broke itself to me', uttered by an involuntary agent, with *Stłukłem filiżankę* 'I broke cup' on the one hand, and *Filiżanka się stłukła* 'cup itself broke', where no agent is mentioned, on the other.

1.3.2. *Negation.* The negation system is simple. Unlike Russian, where anaphoric and sentential negation have two distinct forms (*nyet* and *ni*), in Polish there is only one negative particle, *nie*. In negated sentences *nie* immediately precedes the verb or the auxiliary, and in constituent negation it immediately precedes the constituent in question, e.g. *Czy Jan idzie do szkoły?–NIE.* 'Does John go to school?'–'No.', *Jan NIE idzie do szkoły* 'John not go to school' (= 'John doesn't go to school'), *Jan idzie NIE do szkoły* 'John goes not to school (but . . .)', and *NIE Jan idzie do szkoły* '(It is) not John (who) goes to school (but . . .)'.

[5]The copula *jest* can be deleted, which results in *Zimno mi, Smutno mi*, etc.

A peculiarity of Slavic languages is that of converting the object of a negated verb into the genitive form, e.g., *Czytam książk-ę* 'read book-ACC' (= 'I am reading the book') but *Nie czytam książk-i* 'Not read book-GEN' (= 'I am not reading the book'). The same transformation is applied to subjects of negated existential sentences.

Unlike English, Slavic languages display multiple negation, e.g. *Jan nigdy z nikim nie idzie* 'John never with nobody not goes' (= 'John never goes with anybody').

1.3.3. *Questions.* Question formation is also simple. Yes-no questions require either rising intonation alone or preposing the particle *czy* 'whether', e.g. *Piszesz?/Czy piszesz?* 'Do you write?'. Wh-questions are formed by preposing a given wh-word or a prepositional phrase with the wh-word (the "stranding" of prepositions is not allowed). No additional transformations are needed for questions.

1.3.4. *Modals.* Polish verbs whose semantic content corresponds to that of English modals should be treated as full verbs rather than auxiliaries in view of their syntactic properties (cf. Fisiak et al., 1978, for details). Therefore sentences with modals are embedded constructions rather than simple sentences with a complex predicate, e.g. *Musz-ę napisa-ć list* 'Must-1SG write-INF letter' (= 'I must write a letter') or even *Mog-ę musie-ć wyjść* 'can-1SG must-INF leave-INF' (= 'I could be obliged to leave'). In these examples, the past or future tense forms of the "modal" could be used. Moreover, there are a number of impersonal modals used in subjectless constructions, e.g. *można* 'one:can', *wolno* 'one:is:allowed:to', *trzeba* 'it:is:necessary:to', etc.

1.3.5. *Complex Sentences.* A detailed analysis of syntactic differences between Polish and English complex sentences is given in Fisiak et al. (1978). In the present discussion, I will point only to some of the most general characteristics of Polish syntax. The major difference is that Polish constructions are more transparent. It would be premature to say that surface realizations of clauses are closer to the deep structure than their English counterparts, since we still do not know what the deep structure in fact is like for adult speakers, much less for children. But we can say that Polish complex sentences are easy to process, since the surface form of constituent clauses is much like that of simple sentences, and the abundance of explicit local cues facilitates the processing of internal relationships holding between clause constituents, with clauses being clearly delineated by explicit boundary markers. This "transparency" of Polish complex sentences is manifested in various aspects, which are discussed below.

1.3.5.1. *Clear Marking of Clause Boundaries.* Except for some coordinate clauses which can be simply juxtaposed without any connective, complex sentences must be clearly divided into separate clauses, not only by pauses (or commas in writing) but also by overt markers. This feature is a natural consequence of the freedom of word order. Constituents can be permuted within a given clause, but the clause as a whole must be "bracketed" in some way to prevent relating a given constituent to the predicate of the neighboring clause. Therefore connectives in relative and complement clauses cannot be deleted. The English *He said (that) he was there* is rendered by *Powiedział,* ŻE tam był with the obligatory complementizer *że* 'that'. The English *The boy (whom) I met was hungry* translates into Polish in the form *Chłopiec,* KTÓREGO *spotkałem, był głodny* with the obligatory relative pronoun *który* 'whom', in the accusative case.

The main clause which follows the subordinate clause is usually preceded by the empty particle *to* 'it'; for instance, the English *When I came, you were sleeping* translates as *Jak przyszedłem,* TO ty *spałeś;* and the English *If it rains, I'll stay at home* is rendered by *Jeśli będzie padać,* TO zostanę *w domu.* The empty particle is not used when the main clause comes first; e.g., *Zostanę w domu, jeśli będzie padać,* where the connective *jeśli* 'if' is a sufficient boundary marker. Although not obligatory, *to* is widely used in spoken language. It occurs also with center-embedded relative clauses to mark the beginning of the second part of the interrupted matrix clause, e.g., *Ten chłopiec,* KTÓREGO spotka*łem,* TO by*ł głodny.* In this way the inserted relative is placed within "brackets" formed by *który* and *to.*[6]

1.3.5.2. *Clear Marking of Syntactic Relations.* Polish lacks certain rules that result in semantically opaque constructions, at the same time providing overt local cues that facilitate interpretations. This can be illustrated by the following examples.

The first point concerns restrictions on infinitivization rules. Polish lacks constructions of the "accusativus cum infinitivo" type. Where English uses a infinitival construction, Polish frequently requires a full clause with the finite verb form, e.g. *I saw him go(ing)* = *Widziałem, że szedł* 'I:saw that he:was:going' or *Widziałem (go), jak szedł* 'I:saw (him) as he:was:going'. Similarly, *I asked him to go* = *Prosiłem (go), żeby poszedł* 'I:asked (him) that he:goes'. If the verb can take an infinitival complement, the other complement appears in dative form, e.g. *I ordered him to go* = *Kazałem mu pójść* 'I:ordered he:DAT go:INF'. Fisiak et al. (1978) cite the verb *uczyć* 'to teach' as the only exception, since it takes both the accusative and the infinitival complements, e.g. *Uczę go śpiewa-ć* 'I:teach he:ACC sing-INF' (= I teach him to sing).

It is worth noting that Polish lacks a periphrastic causative construction of the *make*+VERB type. The causative meaning is conveyed mostly by lexical causatives, e.g. *usypiać/spać* 'make sleep'/'sleep', *rozśmieszać /śmiać się* 'make laugh'/'laugh', *zasmucać/być smutnym* 'make sad'/'be sad', or by means of the nonreflexive/reflexive contrast, e.g. *złamać/złamać się* 'break'/'break

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[6]The distribution of Polish *to* seems quite similar to that of *ia* in the creole Tok Pisin language, as described in Sankoff (1974), quoted by Slobin (1977).

itself' as in *Chłopiec złamał patyk* 'boy broke stick' vs. *Patyk złamał się* 'stick broke itself'. Another device used in Polish is that of employing complex sentences with subordinated clauses of purpose, introduced by *żeby* 'so:that' (nonfactive). Typically, the main clause verb specifies the KIND of action performed in order to realize the PURPOSE specified by the subordinate clause as the intended result of the main clause action. Therefore, more information is conveyed than in English, *Make it pretty* or *Make it hold,* which do not specify the manner of obtaining the causative results, cf. Polish counterparts of the above sentences: *Pomaluj to, żeby było ładne* 'paint it so:that (it) be pretty' or *Umocuj to, żeby się trzymało* 'fix it so:that itself (it) held'. On the other hand, using a general term for causative action as in *Zrób, żeby się trzymało* 'make so:that itself (it) held' is not equivalent to the English periphrastic causative, since it conveys additional information, 'I don't know how to do it' or 'Do it, whatever means you employ'.

The second factor involves demonstrative elements in the matrix clause. In the matrix clauses for embedded relatives, demonstrative pronominal antecedents occur, which serve as "auguries" of the following subordination, e.g. *Zrobię to* WTEDY, KIEDY *będę mieć czas* 'I:shall:do it THEN WHEN I:will have time', *Znalazłem to* TAM, GDZIE *to położyłeś* 'I:found it THERE WHERE you:put it', *Znalazłem* TO, CO *chciałeś mieć* 'I:found THAT WHAT you:wanted to:have'. Such pairs comprising the demonstrative antecedent and the relative pronoun provide cues for establishing correct relations between the matrix and the relative clause.

The third point concerns the abundance of local cues (endings). In simple sentences, the large range of gender/number/case agreement may seem redundant. Its usefulness, however, can be best seen in complex sentences. Compare the following English sentence with its Polish counterpart:

The cow that the elephant kissed kicked the lion.

Krow-a	*któr-ą*	*pocałował-ø-ø*
cow-FEM:NOM:SG	which-FEM:ACC:SG	kissed-MASC:3SG

słoń-ø	*kopnęł-a-ø*	*lwa*
elephant-MASC:NOM:SG	kicked-FEM:3SG	lion-MASC:ACC:SG

Apart from casemarking on nouns, which separates the agents in nominative 'cow' and 'elephant' from the patient 'lion' and corresponds to the information conveyed in English by word order, gender agreement in past tense verbs makes the situation clear at first glance. It is only the cow that can be the agent of kicking as the past-tense verb *kopnęła* is marked for feminine and the word 'elephant' is masculine. Analogically, the cow is precluded as an agent of kissing, since *pocałował* is marked for masculine. Furthermore, the relative pronoun *który* occurs in the accusative feminine singular form, *którą*. Thus it agrees in gender and number with its antecedent 'cow', while its case form is governed by the predicate of the relative clause 'kissed'. It is not difficult to guess that only the cow could be kissed and that the only possilbe agent of kicking is the elephant.

In relative clauses, another relative pronoun the indeclinable *co* 'that' can be used. In such cases a shadow pronoun appears in an appropriate case form in order to make explicit the relation clause-antecedent,[7] e.g. *Chłopiec, co GO spotkałem* 'boy that HIM I:met', *Chłopiec, co NA NIEGO czekałem* 'boy that FOR HIM I:was:waiting' (cf. similar constructions in Hebrew in Berman, 1985).

Another example of clear marking is the form of nonfinite verbs. Infinitives are clearly marked as such, due to their specific endings (in English, although they are sometimes preceded by *to*, their form itself is homonymous with finite forms). Polish counterparts of the ambiguous *-ing* form are also clearly differentiated, e.g. *pisanie* 'writing (books)', *piszący* 'writing (people)', *pisząc* '(while) writing' with additional cues provided by casemarking in verbal nouns and case/gender/number marking in adjectival participles. Thus, Poles do not have such problems with visiting relatives as typical for English-speakers (and, especially, for linguists).

The fourth issue is direct temporal reference. The use of tenses is not restricted by any formal rules (i.e. there is no "consecutio temporum"); for instance, *Powiedziała, że PISZE list* 'She:said that (SHE):IS:WRITING letter', where a complement clause in the present tense is embedded in a main clause in thepas the past tense. It means that she said 'I am writing'. On the other hand, the Polish counterpart of the correct English sentence *She said that she was writing*—*Powiedziała, że PISAŁA*—would mean that she referred to a past event and said 'I was writing'. Similarly, an *if*-clause which refers to a future event occurs in future tense form, e.g. *Jeśli będzie padać* 'if (it):will rain', cf. English *If it rains.* Polish use of tenses preserves the one-to-one correspondence between tense form and temporal characteristics of external reality.

Finally, we must consider factive/nonfactive reference. Like the use of tense discussed above, mood is not formally restricted, and any proposition considered by the speaker as nonfactive is put into conditional mood. In conditional sentences, all possible combinations of mood and tense can occur. If the speaker conceives both events as nonfactive (only possible or truly hypothetical), both clauses occur in conditional mood e.g. *Jeśli by-ø padał-o, poszedł-ø-by-m do teatru* 'If COND-3SG rain:PP-NEUT, go:PP-MASC-COND-1SG to theater:GEN' (= 'If it-would-rain, I-would-go to the theater;), cf. English *If it rained . . .* , where the past tense is used according to a purely formal rule.

There is a specific type of conditional mood used in nonfactive subordinate clauses introduced by *żeby*. It is called "entangled" because of the impossibility

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[7]In colloquial speech the shadow pronoun can be omitted if the relation clause-antecedent is unambiguous, e.g. *To krzesło, co ja (na nim) siedziałem* 'this chair that I (on it) was:sitting', as the usual relation between the chair and sitting is that of sitting on it.

of detaching the conditional particle *by* from the proper connective *że*. In accordance with the general rule concerning conditionals (cf. Section 1.2.6.2), *żeby* must be immediately followed by a person suffix, while the remaining verbal form is that of the "past participle," e.g. *Ona chce, że-by-m poszł-a,* 'She wants, that-COND-1SG go:PP-FEM' (='She wants me to go') or *Ona chce, że-by-śmy poszl-i* 'She wants, that-COND-1PL go:PP-VIR' (='She wants us to go'). To summarize, tenses and moods in Polish tend to carry clear and nonarbitrary semantic information concerning temporal relations of events and factive/nonfactive evaluation of the propositional content which is made by the speaker.

The above outline of Polish presents some main features of the system as a whole, with more detailed discussions of the formal features which are significant for the following analysis of the acquisition process. The structures that I have discussed and the examples that I have provided are those of the normal colloquial use of the language.

2. Sources of Evidence

Unlike some other languages discussed in this volume, most of the evidence concerning the acquisition of Polish is provided by naturalistic data. Experimental studies dealing with strictly grammatical questions are scarce.

2.1. *Naturalistic Data*

2.1.1. *Diary Studies.* There exists a large corpus of raw data collected 100 years ago (1885–1904) by the eminent Polish linguist Jan Baudouin de Courtenay, which comprises detailed diaries of the speech of his five children.[8] In 1974, extracts from one of those diaries were edited by Maria Chmura-Klekotowa. Those extracts (10% of the whole diary) prove that Baudouin's data still have more than merely historical value (see Zarębina, 1976, and Savić, 1975).

Polish diary studies published so far are presented in Table 6.4. The authors are mainly linguists who recorded and analyzed their own children's speech, concentrating on the earliest stages of language development. Particular analyses differ with respect to scope and delicacy. The monographs by Kaczmarek, Smoczyński, and Zarębina contain the most detail. Later periods of the grammatical development find a less complete documentation in diary studies. There are two short works: (1) a paper by Siatkowscy (1956) with some observations of the authors' son of age 2;6 and (2) a paper by Wójtowicz (1959), who reports "formations by analogy" in her duaghter's speech from 4;0 to 5;0. The diary studies provide copious evidence on the acquisition of the basic system; however, because of the well-known shortcomings of diary studies in general, the data are frequently difficult to interpret from a psycholinguistic point of view.

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[8]The manuscript (13,000 pages) is kept in the Polish National Library.

TABLE 6.4
Polish Diary Studies

Author	*Date*	*Children-Age*	*Description*
Rzętkowska	1908	girl 0–4;6	vocabulary, remarks on morphology and syntax (33 pages)
Rzętkowska	1909	boy 0–3;0	vocabulary, somewhat more detailed discussion of grammar, and a comparison with the older girl's development (54 pages)
Brenstiern-Pfanhauser	1930	girl 1;0–2;3 boy 1;0–2;3	phonetics, morphology, syntax (56 pages)
Wawrowska	1938	boy 0–2;3	vocabulary, general remarks on grammar, psychological analyses (57 pages)
Skorupka	1949	girl 0–2;0	general remarks (39 pages)
Kaczmarek	1953	girl 0–3;6 plus casual observations on three older children	full linguistic description (90 pages, summary in German)
Smoczyński	1955	girl 0–3;0 boy 0–3;0	most detailed analysis of phonology and semantics of first words, remarks on morphology and early syntax (230 pages, summary in French and in Russian)
Zarębina	1965	girl 0–2;3 plus casual observations on two younger children	full description of phonology, morphology and syntax, vocabulary (100 pages, summary in French)

The monograph by Chmura-Klekotowa (1971), concerned with children's neologisms, is based on longitudinal data of several children (including early Kraków data, see Section 2.1.2) as well as experimental data of elicited word-formations.[9] It provides a detailed and systematic analysis of 5000 neologisms recorded in children's speech. To the best of my knowledge, it is the most exhaustive published study of derivational processes in child language.

2.1.2. *The Szuman Project: Early Kraków Data.* A separate group of naturalistic longitudinal data are those recorded in Kraków in 1950–1960 as a part of a research project on language and thinking directed by Stefan Szuman (Jagiellonian University). Although the samples were recorded by the mothers of the subjects in handwriting (or sometimes in short-hand), they differ significantly from classic diary data. The observers did not record isolated utterances, selected for some reason or other, as was the case with classic diaries. On the contrary, the observers collected short sections of discourse which covered the entire

[9]Chmura-Klekotowa used also data from Baudouin's children. She found significant differences between productive suffixes which they used to form neologisms and those employed by contemporary children.

chronological sequence of utterances addressed to the child as well as the child's productions. Changes in behavioral and situational context were also observed and recorded. Every day several samples were taken, with the observers trying to make the fullest account possible of what they considered to be typical situations. Daily samples were collected for several years of the child's life, and in the case of children studied for the longest periods, they comprise up to about 20,000 utterances. All the children studied had at least one parent with a higher education degree, with most mothers being psychologists. Four girls and four boys were studied through the following period of development: (1) Inka 1;0-8;0, (2) Basia 1;5-8;0, (3) Kasia 1;3-3;1, and 3;9-4;0 (Kasia is Michał's younger sister), (4) Tenia 1;5-1;7 (Tenia is Inka's younger sister), (5) Jaś 1;6-6;0, (6) Michał 2;0-6;0, (7) Miś 2;9-5;10, and (8) Janek 4;2-7;3 (Miś and Janek are two brothers, observed simultaneously).

Szuman's project was carried out in collaboration with Maria Przetacznikowa and Lidia Geppertowa. One part of the project was concerned mainly with vocabulary development: its input consists of Szuman's (1955) work on nouns and verbs, Przetacznikowa's (1956, 1959) studies on adjectives and adverbs, and Geppertowa's (1968) monograph on the acquisition of prepositions and conjunctions. Another part of the project dealt with syntactic development and is represented by Przetacznikowa's (1968) study of the syntactic structure and function of child utterances. This work is based on the corpus of all declarative utterances recorded for Jaś over the period 1;6 to 6;0. The data were classified according to a taxonomy used by Polish grammarians, and detailed quantitative analyses show the structural development of the child's syntax. Qualitative analyses, however, reflect the approach of the whole Szuman project; that is, they concentrate on the ways in which children's thoughts are expressed through language rather than on the process of learning the grammatical structure itself (Przetacznikowa, 1976, 1978).

Although the children who were studied are now more than 20 years old, the data are still used for various kinds of analyses, concerning psycholinguistic and psychological problems. My own dissertation on early syntax (Smoczyńska, 1978a; also see papers written in English: 1976a, 1976b, 1978b, 1980, 1981) was based on the early data of five of those children. The same corpora were analyzed by Przetacznikowa (1975) within the framework of Fillmore's case grammar. Other detailed studies on these data involve negation (Kubit, 1977), a functional analysis of children's questions (Ligęza, 1979), and a number of other works in preparation.

2.1.3. *Tape-Recorded Discourse: Late Kraków Data and Other Research.* In Kraków, at Jagiellonian University, new data were collected in the 1970s within a child language project directed by Maria Przetacznikowa. Tape recordings of several children were made by their mothers, who were mainly members of the project. In order to collect relatively continuous data, the recordings were made two to four times a week in the early stages. The frequency of recording decreased with age. The following children (one girl and five boys) were recorded: Agnieszka, Witek, Szymon, Przemek, and twin brothers, Michał S. and Maciek from the beginnings of syntax to about 3;0 (with some extra samples collected later).

Grace W. Shugar at Warsaw University collected data from two children over the period 1;6 to 3;0. Those data were analyzed in her study on relations between language structure and activity structure (Shugar, 1972, 1974, 1976a, 1976b, & 1978). These data also served as a basis of the report on grammatical development of Polish children found in Slobin (1973).

At Adam Mickiewicz University in Poznań, Richard M. Weist conducted a research project which combined longitudinal and cross-sectional experimental designs. In the longitudinal phase six children were tape-recorded twice a month for about 6 months and two children for shorter periods. The observations include detailed contextual notes which were integrated with the discourse. The naturalistic observations concentrated on the period from 1;6 to 2;6. Two of the children began participation at 1;7, two at 1;9 and two at 2;2 (Weist, Wysocka, Witkowska-Stadnik, Buczowska, & Konieczna, 1984).

2.2. *Experimental Studies*

Although many experimental studies concerning child language have been carried out in Poland, those which are relevant for the present discussion are few. Smoczyńska (1972) investigated the control of the singular noun declension forms in 3-, 4-, 5-, and 6-year-old children (10 children per age group) using elicitation techniques for real and nonsense words. Olszowska-Guzik (in preparation) investigated selected aspects of the control of the linguistic system by 6-year-old children with respect to environmental differences (4 milieux × 30 children). She used various experimental procedures such as elicitation techniques, grammaticality judgments, etc. Mystkowska (1970) analyzed 6-year-old children's productions (story narration on the basis of a series of pictures) which were then compared with parallel data obtained from 11-year-olds and adults. Weist (1980, 1983a,b) used comprehension and production tests in studies of tense and aspect and of word order with ten 2;6-year-old and ten 3;6-year-old children. All subjects were also tape recorded in naturalistic situations for one 45 minute session.

2.3. *Sources of the Data Used in This Paper*

While examining the existing data concerning the acquisition of Polish from the point of view of their relevance for the present paper, I discovered that only a few of the previous studies could be directly utilized. As far as morphology is concerned, only the diary studies proved useful. However, even in the case of the diary studies the data are limited to the acquisition of the basic system up to about 2;3, and the authors (mainly linguists) were interested in the emergence of adult categories. These investigators did not attempt to identify the rules that the child could have formed for himself. Typically, several examples of the first correct use of a form were given followed by instances of erroneous usage. Thus, the reader is not able to estimate the ratio of correct/incorrect forms for a given linguistic expression.[10] As for syntax, it has been investigated by the Kraków psychologists but, in view of their cognitive orientation, they centered on referential meaning. The acquisition of the linguistic forms themselves was given only marginal attention.

Consequently, I undertook the task of exploring the corpora of the Kraków children. The first step consisted of extracting all erroneous forms from the data of several children aged 2 to 6. I determined the morphological and syntactic forms which were especially difficult for Polish children. Subsequently, the corresponding instances of correct use of those forms were singled out in order to establish the significance of the errors, i.e. whether they were consistent or only sporadic. Sometimes it was necessary to go back to the period preceding the occurrence of the first error in order to trace the emergence of the category itself. When no erroneous forms were attested, I tried to find out whether this was so because the child used the form correctly or because he did not employ it at all. Because of the short time at my disposal, I could not do this for all kinds of errors, and I chose only those which seemed to be of theoretical interest. Regarding case for instance, errors in totally irregular exceptional forms are less interesting than those occurring with more or less complex yet regular forms. I also gathered all utterances in which the conditional mood appeared, as well as those containing relative clauses. These two structures are interesting in themselves, both from the cognitive and the strictly formal point of view.

Another part of this study consisted of analyzing the emergence of basic linguistic categories and forms in the data of three children covering the period from the very beginning till the age of 2;6. This analysis was carried out as a supplement to the diary studies in order to obtain detailed knowledge concerning consecutive steps in the acquisition of the basic system.

This research provides the basic data of the present paper. The results obtained by other authors were frequently confirmed, which I shall point out at relevant points. The analysis of the raw data helped me to form a general outlook concerning the acquisition of Polish which can be compared with what is known about other Slavic languages. Additional arguments were provided to confirm my strong opinion that the acquisition of a language (especially in later stages) cannot be reasonably accounted for if we try to divide it into the acquisition of particular forms or subsystems, since the various parts of the linguistic system are interlinked. The interrelationship is inherent and organic so that any analysis should be carried out within the broader framework.

Another important point of caution to be made here concerns INDIVIDUAL DIFFERENCES. The analyses I carried out made me realize that there can exist

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[10]This criticism refers to Gvozdev's (1949) work on Russian as well.

immense differences between the individual paths children take to arrive at roughly the same final result, i.e. mastery of the full system. It is not the case that one child acquires all forms more quickly than another, but rather that the order of acquisition of the correct adult forms is never the same for two different children. An investigation of these individual ways of arriving at the full adult system would require a very thorough study. Having analyzed the data of more than ten subjects, all that I can say about Polish children in general is that there are linguistic forms whose acquisition is LIKELY to cause some difficulties for varied intervals of time somewhere between the age of 2 and 6. With one child this interval can last 3 months, and with another 3 years, and with still another child the predicted difficulty may not appear at all. Some scholars assume that if errors attested in the data of one child are not found in other children, they must have gone unnoticed. The nonselective and continuous daily sampling used with the Kraków children makes me preclude such a possibility. The absence of a predicted difficulty is most puzzling, especially if the source of difficulty can be easily accounted for. That is why I prefer to discuss individual children rather than to make general statements. On the other hand, the observations concerning individual variation call for great caution when generalizing the results obtained from a diary study based on the data from a single child.

3. Overall Course of Linguistic Development

At the one-word stage there is no evidence for productive use of any inflectional forms, with no significant changes being observed in this respect in the earliest two-word combinations. Indeclinable words used in this early period are either specific baby talk items, e.g. *am* 'food, to eat' and onomatopoeias, e.g. *hau-hau* 'dog, to bark' or adult words. In the latter case, nouns occur in the nominative singular, or sometimes in one of the oblique cases as "citation forms." Verbs occur in the third singular present tense form or in the imperative or the infinitive form. Zarębina's (1965) daughter, for example, began to use the imperative form at 1;0, e.g. [es'] = *weź* 'take' and [Xuc' or oć] = *chodź* 'come on', and the third singular indicative form at 1;3, e.g. [g^ha] = *gra* 'plays', [pxa] = *pcha* 'pushes', [c'ita] = *czyta* 'reads', etc. Zarębina reported that Hania used the imperative form to express demands and desires and used the indicative form to make statements. While these verbs have a pragmatic value, they are syntactically frozen forms. We do not find contrasting verb forms at this stage of development, e.g. *chodź* 'come on!' versus *idzie* 'he:is:going' or *pcha* 'he:pushes' versus *pchaj* 'push!' In my data verbs with the imperative form occur MOSTLY in requests, and verbs with the indicative form occur MOSTLY in the declarative context. However, if children happen to use one of these verbs in the less frequent context, they do not change the form of the verbs. Sometimes several forms are used in free variation, e.g. *da, daj, dam, dać,* or *damy-damy,* 'give'. All these forms of the verb 'to give' were used interchangeably by one of the children studied.

The development of the syntactic structures of multiword utterances, recorded in five children during the six months after the emergence of first word combinations, was described in Smoczyńska (1978a). It was found that by the end of the period studied the children had arrived at full control over most of the basic simple sentence patterns. Assessment was made according to three criteria: (1) the ability to produce a number of complete sentences of a given type; (2) pattern generalization, as revealed by a relatively large variety of predicates (Smoczyńska, 1981); and, (3) automaticity of pattern generation, as evidenced by the lack of replacement sequences on the one hand, and examples of expanded patterns on the other. An example of the developmental analysis with respect to the transitive sentence pattern is given in Smoczyńska (1976a).

As for morphological development, it usually starts in the third month of the two-word stage. Regarding nouns, the initial contrast is accusative and genitive singular as opposed to nominative, with vocative appearing at the same time or slightly earlier. In verbs, the second singular of the imperative emerges as opposed to the third singular of the present tense. The infinitive is found a little later. The next step is the emergence of the nominative plural and the accusative plural, followed by the instrumental singular, the locative singular (in locative phrases with the preposition omitted) and the dative, which is typically mixed with the genitive (see Section 4.3.2.1). The following new verb forms appear more or less simultaneously—all of them mostly in the third singular: perfective future (formally identical with the imperfective present tense form), past tense (mostly perfective, but also imperfective, see Section 6.1.2) and a little later, also the analytic imperfective future. Thus tense and aspect emerge very early and simultaneously. The above list of forms characterizes the average level of morphological development of a 2-year-old. The sequence was established on the basis of the data of three children (Kasia, Jaś, and Basia), and it is consistent with the findings reported in Zarębina (1965) and Kaczmarek (1953).

It should be said, however, that such an overlap of morphological and syntactic development is not always observed. With some children, the acquisition of morphology is slowed down, probably due to individual phonological difficulties, cf. the data in Smoczyński (1955) and in Baudouin de Courtenay's diary (1974). Also Smoczyńska (1978a) reported a contrastive example of two of her subjects (Jaś and Tenia). In the fourth month after the first word combinations emerged both children reached the same level of syntactic development. However, while Jaś's morphological development was fairly advanced, Tenia still tended not to make inflectional contrasts.

As far as the acquisition of specific case endings is concerned, most of them are used correctly from the very moment of emergence of a given category, as opposed to Russian, where "inflectional imperialism" (Slobin, 1966) is common. This is due to the early mastery of grammatical gender in the singular, which determined assigning a given noun to an appropriate declensional pattern (see Section 6.1.1). Overgeneralization occurs mainly when an irregular ending competes with a regular one, and less frequently within regular patterns (see Section 4.3).

In the third year of life new tasks appear. The child learns the remaining elements of the declensional pattern, especially plural case forms of nouns which have not been used so far. During this period of development children expand various noun phrase constituents, begin to use oblique case forms of adjectives, and master the whole declensional pattern of adjectives. Przetacznikowa (1968) computed the percentage of noun modifications in all kinds of expansions occurring in simple declarative sentences produced by Jaś, and she found that attributes appeared in about 20% of expanded sentences from 1;6 to 3;0. Their number systematically increased with 36% from 3 to 5 years and 42% from 5 to 6 years.

At the same time, the child learns how to combine basic patterns that he had previously acquired to form various types of complex sentences. The ratios of different kinds of declarative sentences recorded for Jaś are presented in Table 6.5. It can be seen that coordination precedes subordination and occurs more frequently in the early years. Jaś started using conjunctions relatively early. With "telegraphic" children, however, who omit conjunctions over a relatively long period, the dominance of parataxis would be even stronger since mere juxtapositions must normally be interpreted as coordination. Another important development shown in Table 6.5 is the growing ability to combine more than two clauses. The different structural patterns of such constructions have been described by Przetacznikowa (1968), and a detailed discussion of complex sentences can be found later in this paper (see Sections 6.1.4 and 6.2).

TABLE 6.5
The Proportions of Declarative Sentences[a] of Varying Complexity in the Speech of Jaś (Based on Przetacznikowa, 1968)

Age	*1;6–2*	*2–3*	*3–4*	*4–5*	*5–6*
simple sentences[b]	94%	78%	64%	52%	46%
coordinate clauses	6%	13%	18%	25%	29%
main & subordinate	—	7%	13%	14%	12%
more than 2 clauses[c]	—	2%	5%	9%	13%
Total	100%	100%	100%	100%	100%
N	372	2365	2223	1484	2243

[a]The proportions would be somewhat different if imperative sentences were included since some kinds of subordinate clauses typically occur first with requests.

[b]including expanded.

[c]subordinate or mixed.

Another important task for the 2-year-old involves mastering the distinction of person in verbs. The first-person form emerges in opposition to the third-person form, which was initially used for self-reference as well as for the second and third person. Later on the second person is also introduced. The acquisition of the rules of deictic switching takes several months and is followed by the mastery of the pronominal declension pattern, as well as the discourse rules of pronominalization. All these processes are gradual. During the third year of life, many examples can be found in the child's utterances of some of the required forms but not all of them. While the conjugation patterns of the indicative are supplemented by adding first- and second-person forms, the conditional mood emerges, first in its entangled form in subordinate clauses, and later in main clauses with some typical formal difficulties (see Section 4.6.3). Also, passive constructions are used from the age of 2 without explicit mention of the agent.

By the end of his third year of life the child masters the syntax of complex sentences as well as discourse rules which makes it possible for him to construct longer texts in a more coherent and economical way. This textual function is realized by means of a complex system involving pronominalization, reflexivization, ellipsis, word order, focal stress, etc., all these elements being related to each other. Finally, after 3 years of age, the child learns the devices for compacting information in still more economical although less transparent form, which involves infinitivization, nominalization, etc.

THE DATA

4. Typical Errors

The present chapter gives a relatively complete outline of errors that were found in naturalistic data of 10 children aged 1;6 to 6;0. Although several kinds of erroneous forms are reported in earlier diary studies, the studies lack sufficient information concerning frequency of occurrence and the ratio of correct versus incorrect forms. It is only when these aspects are taken into account that an exact evaluation of the range of erroneous forms can be made and the following kinds of errors distinguished: (1) consistent errors; (2) inconsistent erroneous usage of forms in their earliest appearance, resulting from unsuccessful attempts at quoting a particular form or reconstructing its general shape; (3) mistakes, i.e. sporadic occurrences of erroneous forms after the given rule has been learned, attested by a prevailing number of correct uses (these errors constitute a 10% margin which remains after the 90% criterion has been met); (4) free variation of correct and incorrect forms; and, (5) totally isolated occurrences of erroneous forms which do not follow typical structural patterns.

Another classification is related to the character of the adult norm with which the error is compared, where the norm we refer to is that of spoken language as used by educated native speakers. Some morphological patterns that occur in a language are RULE GOVERNED (or regular). Some of these rules are simple and others are complex. Regardless of the complexity of the rule the distribution of forms is based on some explicit grammatical criteria, for instance, a group of words sharing certain features (criterion A) takes the form *a,* whereas another group of words which satisfies the criterion B takes the form *b.* On the other hand, there are IRREGULAR morphological patterns with no criteria for their application, for instance, a list of words: C_1, C_2 . . . C_n which do not share any common feature takes the form *c*. The latter is found to be less interesting than the former, as in such cases learning the correct form consists of rote-memorization of a list of exceptions, although the strategies that the child employs in such cases can prove to be of some interest, e.g. overgeneralization, looking for distributional criteria where there are none, etc.

The distinction between the complexities of the regular system on the one hand and the irregularities on the other has not received adequate attention, in spite of its crucial relevance. For instance, many authors claim that Slavic children are not able to acquire the declension system before the age of 5 or even 7. If however the term "system" is taken to mean a given set of rules excluding irregularities, then in fact, the system itself is mastered much earlier. In his discussion of Russian, Slobin (1966, 1968) emphasized certain aspects that must have been unknown to those investigating the acquisition of English. Slobin discussed morphological complexities and irregularities which the child must face and with which—much to the amazement of scholars—he finally manages to cope. In this place, however, I would like to introduce the distinction between a set of rules and the exceptions to these rules in order to make the acquisition of Slavic languages more easily understood and a little bit less amazing.

We shall therefore try to classify particular types of errors in terms of the relation between children's productions and the norms of the language. The simplest kind of error, very common with English-speaking children, but considerably less so with Polish children, is that of omitting a grammatical morpheme in an obligatory context. The opposite kind of error is overmarking. Still another type consists of using correct adult forms in improper contexts.

Sources of difficulties can be found in different characteristics of the adult norm: (1) complexity of the criteria for rule application; (2) complexity of the rules themselves, i.e. when the rule involves a combination of several operations; and, (3) given a simple criterion and a simple rule, a difficulty can arise from a mismatch between the system acquired so far by the child and the rule under acquisition.

Consequently, the following situations can be distinguished: (1) disregard—or lack of recognition—of adult criteria of form distribution which results in overgeneralization or formation of an idiosyncratic or simplified rule which does not exist in the language; (2) acquiring all rules without learning the criteria of their distribution, which results in free variation of the forms in question; and, (3) difficulties in the complete application of a complex rule after the criteria of its use have been learned, i.e. partial application of a rule.

All these types are attested both among early and late errors. While the early errors can be explained in terms of operating principles (whether cognitive or strictly linguistic), the later errors should be related to the entire system of the language. We must attempt to discover the discrepancy between a given rule (or the criteria of its application) and the distinctions already acquired, rather than some isolated operating principles. A discrepancy of this kind can result in U-shaped developments such as the blurring of some well-learned distinctions due to the acquisition of a rule which contradicts the distinctions. Moreover, it seems that there exists another type of U-shaped development in which the child, in his attempt to create a maximally economical system, gets rid of an already acquired sub-rule and overextends the one that he had just learned.

4.1. *Omission of Obligatory Functors*

In view of the general morphological structure of Polish, only the following free grammatical morphemes are potential candidates for telegraphic reduction: prepositions, conjunctions, the copula *jest,* the future tense auxiliary *będzie,* two enclitic particles (i.e. the reflexive *się* and the conditional *by*) and possibly also enclitic movable endings of the plural past tense forms (i.e. *-śmy, -ście*). In the earliest data the children studied omitted prepositions and the reflexive particle *się*. The copula *jest* was also deleted, however, it is not obligatory in Polish. In the case of other candidates for reduction, omission could not occur in the earliest utterances because of the lack of appropriate obligatory contexts. Later, the children can be clearly divided into "telegraphic" versus "non-telegraphic" types with most of the children falling in the latter category. Two of the children studied (Basia and Inka) persistently omitted some obligatory morphemes. With the development of syntax, new obligatory contexts emerged for other free morphemes and Basia and Inka now omitted the new set of free morphemes. With these two "telegraphic" children (as with English-speaking children) the appearance of the morphemes that had been omitted earlier was a gradual process taking place during the third year, for instance, at the given moment the children were using some conjunctions and omitting others, even though they were building sentences with both kinds of obligatory contexts. Typically, asyllabic prepositions (*w* 'in', *z* 'with') were omitted for a longer time than the syllabic ones (*do* 'to', *na* 'on'). This is due more to phonetic reduction of an initial consonantal cluster than to processes discussed here. In the case of the remaining children, prepositions and the particle *się* appeared before the age of 2, and the remaining free morphemes were used from the moment of the emergence of appropriate contexts, and their usage satisfied the 90% criterion from the point of emergence.

Let us turn to the data of the "telegraphic" children. Establishing obligatory contexts for conjunctions and other connectives is not very easy since in some kinds of complex sentences their use is optional. However, with complement clauses, "complementizers" are obligatory, and Basia and Inka omitted them. The resulting utterances would be correct in English but not in Polish, e.g. Inka (2;4) *Tatuś powiedział jestem grzeczna* 'Daddy said I:am good', cf. correct *Tatuś powiedział, ŻE jestem grzeczna* 'Daddy said THAT I:am good'.

Another obvious example is the omission of the conditional particle *by*, resulting in utterances in which the predicate occurs in a past-tense form while they clearly refer to some hypothetical future events, e.g. Basia (2;6) refused her friend's invitation to climb a hill and said, *Ja nie pójdę, ja spadłam, moja mamusia płakała* 'I not will:go, I fell, my Mommy cried'. Since Basia had never fallen down a hill before, and thus her mother could never have cried for that reason, it is obvious that the girl actually meant to say, *Ja BY-m spadła, moja mamusia BY płakała* 'I WOULD-1SG fall (and) my Mommy WOULD cry'. Omissions of the conditional *by* are easy to detect in Basia's utterances as early as 2;0 because Basia had already demonstrated an understanding of the correspondence between tense and temporal reference at an earlier phase of development (see Section 6.1.2). Hence, we know that a word like *płakała* is not intended as a past form but rather as a past participle with conditional particle *by* omitted (cf. *by pł akała* or *płakałaby*).

Among the candidates for omission listed above, two behave differently in that one is seldom omitted and the other is often omitted irrespective of whether the child demonstrates "telegraphic" tendencies or not with respect to other functors. First of all, the future tense auxiliary *będzie* appears very early in all children. This can be explained both by its clear semantic function, and by the fact that unlike other free morphemes, the auxiliary *będzie* is polysyllabic and receives normal penultimate stress. As such it can be more easily given the status of a "normal" word. While the periphrastic future is formed quite early, some investigators have observed the omission of *być* 'to be' during the emergence of the form. In the earliest data, I found examples such as *Basia spa-ć* 'Basia sleep-INF' (='Basia to sleep') which could have been due to the omissions of either the future auxiliary *będzie* or the verb *chce* 'want'.

When considering truncated forms of the periphrastic future one must be careful to evaluate the discourse context because some contexts provide the option of deleting the auxiliary. Excluding elliptical examples, I found no examples of auxiliary deletion with the past participle, e.g. *pisała* instead of *będzie pisała* 'she:will write (be writing)'. Weist (personal communication) has found such truncated forms but very infrequently. In contrast to Polish where the polysyllabic auxiliary is seldom omitted, Kolarič (1959) has found auxiliary deletion in Slovenian where the auxiliary is monosyllabic. This shows that the poly- versus monosyllabic nature of this functor is responsible for its resistance to omission.

Secondly, the movable ending *-śmy* of the first person plural past tense is omitted both by "telegraphic" and "non-telegraphic" children. The use of this ending involves some quite special problems which are discussed in Section 4.4.4. The second person ending *-ście* is very rare.

4.2. *Overmarking*

Redundant marking appears most clearly with movable endings. In the process of learning acceptable positions of an ending, frequently a transitional stage occurs, when it is used twice. With conditional forms, one kind of error consists of using the particle *by* twice. For instance, when Basia began to use explicit marking at 2;7, she introduced the particle *by* which had been omitted before. She used the particle in two positions, e.g. after she was told by her mother not to take her shoes off, she said, *Bo co? Bo zaziębiłam-BY się BY?* 'Because what? Because I-would-get-a-cold would?' Such final repetition of *by* is limited to the very early examples. Later on, the particle appears twice in each of the two alternate correct positions, i.e. as an enclitic and postverbally, e.g. Basia (2;11) *A moja mamusia też BY miała-BY ładne włoski* 'And my mommy also would have would pretty hair' (cf. correct *by miała* or alternatively *miałaby*). Such errors can be found in other children, and they are also reported for Russian in Gvozdev (1949).

Another kind of error with conditionals involves overmarking for person. As will be shown below (Section 4.6.3), children tend to attach the person suffix to the past participle and not to the particle *by*. While learning the correct position of the person suffix, they frequently use it twice (once with the past participle and with *by*), e.g. in the context where mother said, *Nie pojeździł-by-ś na koniku?* 'Not ride:PP-COND-2SG on horse' (= 'Wouldn't you (like to) ride a horse?'), and Jaś (3;0) replied, *Nie pojeździł-em by-m* 'Not ride:PP-1SG COND-1SG' (= I wouldn't (like to) ride.) cf. correct *Nie pojeździł-by-m.*

In case of the analytic future with the past participle, analogous examples of person overmaking can be found, but they are significantly less frequent, e.g. Jaś (2;7) *W spodenkach będzie-m leżał-em* 'in trousers will-1SG lie:PP-1SG' (= 'I will lie down with my trousers on'), cf. correct *będę leżał.* Siatkowscy (1956) reported such errors in their son's speech at 2;5. However, there is no information on how consistent the error was. In my data, it should be treated as a mistake or a slip of the tongue rather than a consistent error. Finally, another case of overmarking is that of using a sequence of two conjunctions as *bo żeby* 'because so:that', *bo dlatego* 'because because' or two connectives in comparisons as in *większy niż od ciebie* 'bigger than from you'.

4.3. *Overgeneralization*

This strategy is applied first of all when an irregular ending competes with a regular one, the latter being overextended to include irregular cases. Some examples are presented below in Section 4.3.1. Another process is the overgeneralization of one of the two regular forms, i.e. when the child fails to discover relevant criteria (see Section 4.3.2).

4.3.1. *Irregular Versus Regular Form*

4.3.1.1. *Genitive Singular of Masculine Nouns: the Irregular* -u *Replaced by the Regular* -a *Ending.* The class of masculine nouns with the genitive *-u* suffix is quite large. There exist some vague criteria, such as [—animate], e.g. *pociąg* 'train' or [+ mass noun], e.g. *cukier* 'sugar' or [+ loan word], e.g. *papier* 'paper', but they are not adequate since not all nouns having one of these features take the *-u* ending in the genitive singular. Children show a tendency to overextend the regular *-a* ending. The reverse overextension is rare. It should be noted, however, that the number of words to which the *-u* ending is applied correctly constantly grows with age, and the errors of overextension of *-a* quickly become infrequent. I am unable to explain the way in which the children elaborate a rule which grammarians have been so far unable to make explicit. Yet if not rule governed, the children would have to retain the information for each item separately. This seems unlikely since the number of words that take the *-u* ending is large. One of the factors facilitating the acquisition of correct forms may be the high frequency of genitival forms as it is the grammatical case that has the largest range of functions.

4.3.1.2. *Regularization of the Irregular Feminine Nouns Which End in a Consonant in the Nominative Singular.* The irregular feminine declensional pattern is as follows in the singular: NOM & ACC -ø, GEN, DAT & LOC *-y*/*-i*, and INSTR *-ą*. Here the child faces a conflict situation. While the adjective and verb agreement indicates the feminine gender, the lack of an ending suggests the masculine gender. These nouns constitute quite a large class. One of the options chosen by children is that of avoiding these forms and using regular diminutive forms, e.g. *mysz* 'mouse' becomes *myszka*. Diminutive forms are also used by adults when they address children and even *krew* 'blood' becomes *krewka* in the baby-talk register.

If the child does not avoid the base form, he will either treat it as masculine and decline it accordingly (together with appropriate agreement) or else he will provide it with the regular *-a* ending and treat as a regular feminine noun. The selection of one or another pattern is subject to free variation. The child can say *Widziałem kolej-ę* 'I:have:seen train-FEM:ACC:SG' using the regular feminine accusative ending *-ę*, and immediately afterwards say *Ten kolej jechał-Ø* 'this:MASC:NOM:SG train was:going-MASC' with the demonstrative *ten* and past tense *jechał* marked for masculine.

Smoczyńska (1972) found that children over 4;0 know this special declensional pattern, but they are not likely to apply it when there is a clear diminutive correspondent of a noun, e.g. *mysz* is replaced by overregularized *mysz-a* (under the influence of *mysz-k-a*) yet the noun *kość* 'bone' is declined correctly since its diminutive *kostka* has a different meaning.

4.3.1.3. *Irregular and Infrequent Forms.* The dative singular form *-u* with masculine nouns and the instrumental plural *-mi* can serve as examples of irregular and infrequent forms. They are used for a very limited number of words without any explicit criteria so that they are marginal with respect to the overwhelming number of words that take the respective regular endings (*-owi* and *-ami*). Overgeneralization of the regular pattern is most typical in such cases. Smoczyńska (1972) did not find any progress in 5- and 6-year-olds as compared with 4-year-olds with respect to the dative in *-u*. Olszowska-Guzik (personal communication) has supplied me with her data concerning the acquisition of irregular forms in 6-year-olds. Using elicitation techniques she tested 120 children from four different social backgrounds and found that some items of the kind described above were incorrect in nearly 100 percent of responses, irrespective of the social background of the child. In some other instances, social background proved to be significant.

4.3.2. *Competition of Regular Forms*

4.3.2.1. *Genitive Case Instead of the Dative (and Vice Versa).* According to Slobin (1973), so far no scholar has reported consistent mixing of two cases or using one case instead of another. Gvozdev (1949, vol. 2, p. 84) explicitly states that such errors never occur in his data. According to my Polish data, however, several children went through a transitional period of substituting the genitive case for the dative. The overextension of the genitive case usually follows some early correct uses of dative forms, and it can persist for some time, e.g. 1;7 to 1;10 in Kasia and 1;9 to 2;5 in Basia.

In order to explain this phenomenon, several features of the Polish declensional system should be presented. First of all, the dative case in Polish has a very restricted range of functions and all of them referring to animate beings. Receiver, Benefactive, and Experiencer are the most typical functions.[11] In child speech, the dative contexts appear quite early but usually only after the genitive has been acquired. Such early occurrences are primarily strictly limited to forms of the names of family members with the child himself included, and less frequently, the names of some animals or animal toys occur. No doubt the cause of the presently discussed generalization is the homonymy of the genitive and the dative endings in one class of feminine nouns, i.e. stems ending in a soft consonant. This set of nouns includes frequently used nouns such as *mamusia* 'mommy', *babcia* 'granny' or the child's name, e.g. *Basia* and *Kasia*. The

[11]Unlike Russian, where the notion of 'movement towards' is expressed by the preposition *k* + DAT, in Polish it is expressed by means of *do* + GEN, which accounts for the absence of dative contexts for inanimate nouns.

homonymous genitive-equals-dative forms for these examples are: *mamusi, babci, Basi,* and *Kasi.* Because of the very restricted use of the dative, this homonymy is not counterbalanced by a sufficient number of other forms where the genitive is not identical with the dative. Some of these counterexamples which do occur in the data include the following: from the nominative *mama* 'mom' there is the dative *mamie* and the genitive *mamy,* from NOM *tatuś* 'daddy' DAT *tatusiowi* versus GEN *tatusia,* from NOM *miś* 'teddy-bear' DAT *misiowi* versus GEN *misia,* etc. The children tend to use the genitive form in dative contexts, e.g. *misia* not *misiowi.*

One of the three children studied, Jaś, did not reach the level of mixing the two cases. Probably his own name, which takes the dative form *Jasiowi* as different from the genitive *Jasia,* and which was used very frequently in dative contexts, helped to avoid this confusion. However, there was a short period (from 1;10 to 1;11) when the *-i* ending became generalized and was used also with some nouns requiring *-e* or *-owi.* The examples were not numerous: (1) *mami* for dative, cf. correct *mamie,* versus the genitive *mamy* 'mom', (2) *babi* for dative, cf. correct *babie,* versus the genitive *baby* 'grandma', and (3) *pieski* for dative cf. correct *pieskowi,* versus the genitive *pieska* 'doggie'. One month later the correct distribution was established. This example, however, points to the importance of the homonymous *-i* ending.

Zarębina (1965) quotes similar examples from her daughter's speech in the last months of the second year. They are followed, after the age of 2, by several examples of reversed substitution, where the dative is used instead of the genitive in the sense of possession, e.g. *tatusiowi jest lekarstwo* 'to:Daddy is medicine'—quite unusual in Polish but typical for Latin (e.g. *Mihi est liber*) or Hebrew (cf. Berman, 1985). Similar examples of the possessive dative are given in Siatkowscy (1956), e.g. *książka tatusiowi* 'book to:Daddy' instead of the correct *książka tatusia* 'book of:Daddy'. The Siatkowscy examples were collected during the period from 2;0 to 2;6. In my data such errors are only sporadic.

The homonymy alone cannot adequately account for these substitutions since it is fairly frequent in the whole declensional system and still never leads to such results. What seems necessary for this homonymy to result in the mixing of the two cases is the close semantic proximity of the possessive genitive and the dative cases, the only difference between the Possessor and the Receiver being that of the stative versus dynamic notions.

The cases are occasionally mixed in locative phrases when a directional expression is used instead of a stative one (or vice versa), e.g. 'to the tram' instead of 'in the tram', or 'at the shop' instead of 'to the shop'. Such examples occur sporadically in my data, and similar ones have been cited by Zarębina (1965).

4.3.2.2. *Genitive Plural* -ów *Instead of ø Ending in Feminine and Neuter Nouns (Grammatical Gender Criterion).* This overextension represents the only obvious instance of "inflectional imperialism" in the acquisition of Polish.

The adult rule is quite simple, i.e. in the genitive plural masculine nouns have the ending *-ów* while feminine and neuter nouns have a zero ending. In addition to this regular pattern, some masculine nouns take an irregular *-y/-i* ending.[12]

The majority of the children studied used the *-ów* ending irrespective of the noun gender. Typically, this ending appeared in the first contexts for genitive plural (about the age of 2) and was persistently and exclusively used for differing periods of time, for instance, till 3;0 for Kasia, 3;4 for Michał, 3;9 for Jaś, and 4;6 for Basia.[13] This is a typical "late error" since all the remaining REGULAR case forms are mastered by the age of 2;6 or before. It is also worth noting that in the Russian data for Zhenya, the corresponding *-ov* ending persisted much longer than other "imperialistic" endings, which were no longer overextended after the age of 2;9 (Gvozdev, 1949, vol. 2, p. 87).

There are five factors which should be taken into account as possibly responsible for the "inflectional imperialism" of *-ów*. First of all, the zero ending in feminine and neuter nouns contradicts the principle of overt marking (see Slobin's (1973) Operating Principle E). This argument, however, does not provide a sufficient explanation of the persistence of this error. Furthermore, this argument does not explain why other -ø endings are NOT replaced by overt markers with similar consistency, e.g. the accusative singular of inanimate nouns or the second person imperative for the verb.

Secondly, the form with the zero ending is one (or even two) syllable(s) shorter than the remaining forms of the noun, e.g. nominative singular *lampa* 'lamp' has the genitive plural form *lamp* and the instrumental plural *lampami*. The significance of this factor is supported by the finding that diminutive forms, e.g. *lamp-(e)k-ø* 'lamp-DIM-GEN:PL' which for phonetic reasons acquires an additional syllable with the insertion of /e/ between the stem and the *-k* suffix usually appear earlier than bare stem forms. Hence the child who uses the correct form *lamp(e)k* will continue to say *lamp-ów* instead of *lamp*. It is possible that the child conceives /ek/ as a kind of ending for genitive plural. While the first and second factors are concerned with the form of the rule, the third and fourth factors refer to the criteria of rule application.

Thirdly, in case of genitive plural, the criterion of grammatical gender distinction between feminine and neuter nouns on the one hand and masculine on the other is in two ways inconsistent from the point of view of the declension system. First, in plural the distinction between masculine/feminine/neuter, relevant for singular, is abolished to be replaced by the virile/nonvirile gender distinction. While this is true for adult language, in early child language this conflict of double gender distinction does not actually occur because the virile/nonvirile

[12]The *-y/-i* ending occurs also with some irregular feminine nouns. This fact will not be taken into account here, as these nouns were not found to occur in the data.

[13]After this age, *-ów* continued to be overextended to replace the irregular *-y/-i* of masculine nouns, but this phenomenon is similar to those discussed in Section 4.3.1. There were also sporadic instances of its use with feminine and neuter nouns but the correct use was much more frequent.

distinction with all its implications is acquired long after the appearance of the genitive plural forms (see Section 6.3.1).[14]

Moreover, in singular, masculine and neuter nouns form the nonfeminine gender as opposed to the feminine, while in the case of genitive plural it is the neuter together with the feminine that are opposed to the masculine. This disproportion justifies the prediction of special difficulties with neuter nouns, which would therefore be likely to behave as masculine nouns, rather than take the same ending as feminine nouns. This prediction is confirmed in the data of Basia, who used *-ów* as the only genitive plural ending until the age of 4;6, while later, from 4;6 to 5, she applied it only to neuter nouns (apart from its correct use with masculine nouns), with feminine nouns having the correct Ø ending. Thus, the factor seems to be significant, although not from the very beginning of the acquisition of genitival form.

The fourth factor concerns the fact that the basic system of the plural declension as elaborated by small children seems to be much simpler than that of adults. There is a clear tendency for one-to-one correspondence between case and ending with no gender distinction at all, i.e. nominative has two allomorphs *-i/-y*, accusative equals nominative,[15] dative takes *-om,* instrumental *-ami* and locative *-ach.* This apparent regularity of the system can contribute to the child's expectation that the genitive also has a unique form.

The fifth and final factor concerns the role of agreement. Agreement forms can also be of some importance for establishing gender distinctions. Table 6.6 shows the neutralization of gender in plural, where all the nouns except [+ virile] take the same agreement forms in both adjective and verb. The importance of this factor was revealed to me by a strange metalinguistic problem set forth by one of the subjects studied, Miś (3;4): *Mamusiu, płatek to on?* 'Mommy, is *płatek* (petal) a he?' *Płatek, jak jeden, to on?* '*Płatek,* when there is one, is it a he?'. Mother: *Tak.* 'Yes.' Miś: *A dwa?* 'And (if there are) two (of them)?' Mother: *To płatki.* 'Then (they are) *płatki*' Miś: *A sto?* 'And a hundred (of them)?' Mother: *To płatków* 'Then—*płatków*'. Rather than the form itself, the child wanted to learn the grammatical gender. Miś's use of 'he' and 'she' was a technique that he employed as early as 2;11 to ask questions about gender. What is interesting here is the occurrence of two separate questions, i.e. 'What is the gender of *płatek* in singular?,' and then 'What is its gender in plural?'. It could mean that Miś constructed a hypothesis on the metalinguistic level concerning the change of gender in plural. He could have noticed that *płatek,* which in singular behaved like a boy, undergoes a sharp transformation in plural and begins to behave like

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[14]There are, however, numerous early examples of the correct nominative plural *-a* with neuter nouns, which could be treated as evidence that the tripartite gender distinction can work in plural as well. However, the nominative form is somewhat more basic than those of oblique cases, and as such it can be learned more easily.

[15]Children use mostly inanimate plural objects, which are nonvirile. The use of virile objects, where accusative equals genitive, comes much later.

TABLE 6.6
Gender Agreement in Adjectives and Past Tense Verbs in Singular and Plural

Singular				*Plural*			
Gender	*Noun*	*'was'*	*'pretty'*	*Gender*	*Nouns*	*'were'*	*'pretty'*
MASC	chłopiec 'boy'	był	ładny	VIR	chłopcy	byli	ładni
MASC	kotek 'cat'	był	ładny	NVIR	kotki	były	ładne
FEM	matka 'mother'	była	ładna	NVIR	matki	były	ładne
FEM	zabawka 'toy'	była	ładna	NVIR	zabawki	były	ładne
NEUT	jabłko 'apple'	było	ładne	NVIR	jabłka	były	ładne

girls, and thus it takes the adjective and verb forms proper to female human beings. It could be then that children perceive the non-virile gender simply as a kind of feminine which is due to their tendency to refer to natural sex differences in their metalinguistic reasoning (cf. Karmiloff-Smith, 1979).

The combination of all these factors can provide an adequate explanation of the phenomenon described above. What I found to be most difficult to account for is the case of three children among my subjects who had no problems with the genitive plural. With two of them, the distribution of ø and *-ów* was correct from the very beginning (2;0 to 2;2). The third one, Inka, seemed to avoid zero forms until 2;5 using *-ów* exclusively and only with masculine nouns. Next, from 2;5 to 3;3 she used the Ø ending but only with diminutive nouns (when this involves /e/-insertion). Eventually after the age of 3;3, she also used bare stem forms. Such a stategy of avoiding difficulties is interesting in itself, but it goes beyond the problem presently under discussion. When trying to account for the data from these children, I would claim that the first two factors can also be the very cause of the EARLY acquisition of zero forms. Word forms which do not have any overt marker and are shorter than usual seem strange to all children. This peculiarity can be rejected by some children which results in replacing the zero ending with an overt marker. In contrast other children would notice the zero ending just because of the perceptual salience of the lack of an ending, and they would accept it resulting in the establishment of distributional criteria.

4.3.2.3. *Accusative Singular of Masculine Nouns: Overextension of* -a *(the Animate/Inanimate Criterion).* In the accusative singular, masculine nouns subdivide into animate and inanimate, with the former ending in *-a* and accusative equal to genitive and the latter having the Ø-ending and accusative equal to nominative. The distribution of forms is identical to the parallel distribution in Russian, where it has been reported as a late acquisition by Gvozdev (1949) and Slobin (1966). Polish data are unclear in this resepct. The picture is obscured by the interference of another factor. In contemporary spoken Polish, there is a strong tendency to use the *-a* ending also with inanimate nouns in some limited but not very well-defined contexts. So far, the research carried out by Polish linguists has not led to any clear conclusions concerning either the kinds of words which are likely to take the *-a* ending, or typical contexts in which it occurs. Hence, no adequate explanation of the phenomenon has been provided.

On the one hand, Polish children seem to acquire the *-a* versus ø distinction very early (about 2;0), but at the same time, they use the *-a* ending with inanimate nouns to a much larger extent than adults do, although some contexts prove that they know the distinction. It is difficult to state anything definite without clear information on adult usage. What seems to be the case here is the overextension of some adult rule rather than the simple overgeneralization of the *-a* ending. Typically, child language more explicitly reflects a change that the language undergoes at a given time (cf. Slobin, 1977).

4.3.2.4. *Locative Case of Nonfeminine Nouns: Overextension of the Ending* -u *(Morphophonological Criterion).* The distribution of the two alternative endings *-u* and *-e* depends on the character of the stem final consonant. Furthermore, while adding *-u* does not require any transformation of the stem, the *-e* ending involves softening of the stem final consonant, e.g. the shift from [v] to [v'] in *drzew-o* vs. *na drzewi-e* 'tree'. When there is no palatal counterpart of the consonant, it is replaced by another consonant according to a clearcut pattern, e.g. *rower* vs. *na rowerze* 'bike'; *zeszyt* vs. *w zeszycie* 'copybook', with /r/ - /ž/ and /t/ - /ć/ alternations.

In some children one can find a dozen or so examples of overextended *-u*, e.g. *na roweru, w zeszytu,* but the *-u* ending is never found to predominate to such an extent as to drive out the *-e* ending completely; cf. also examples in Wójtowicz (1959). This overextension results in the avoidance of stem alternations. Furthermore, in some children, the vocative ending *-u* undergoes an analogous overextention. Russian has similar endings but their distribution differs from that of Polish, and in view of differences in the phonological system, no similar stem alternations are involved. In fact Gvozdev (1949) finds a reverse tendency to overextend *-e* at the cost of *-u*.

4.4. *Idiosyncratic Rules*

Idiosyncratic rules are somewhat different than overgeneralizations. Idiosyncratic rules involve a simplified procedure invented by the child in order to cope with a diversity of rules. This is not identical to overextending a rule that exists in the adult language. On the other hand, an idiosyncratic rule is usually related to one of the existing rules, or else it can be based on a single linguistic form which serves as a model for overgeneralization.

4.4.1. *Present Tense: First-Person Form Equals Third-Person Plus* -m. Among present-tense forms the first to emerge is the third-person form. When shifting to the use of first singular for self-reference, children must establish the

TABLE 6.7
Present Tense Forms in Singular

Person	*Conjugation I* (*-e-*)		*Conjugation II* (*-i-*)		*Conjugation III* (*-a-*)
1	pisz-ę	bior -ę	rob-i-ę	widz -ę	czyt-a-m
2	pisz-e-sz	bierz-e-sz	rob-i-sz	widz'-i-sz	czyt-a-sz
3	pisz-e	bierz-e	rob-i	widz'-i	czyt-a
	'write'	'take'	'do/make'	'see'	'read'

distribution of the two endings -ę and *-m*. Table 6.7 presents the distribution of these endings. Most of the children studied acquired these rules quickly and made no consistent errors. One boy (Jaś), however, used a simplified rule of adding *-m* to the third-person form in all verbs, e.g. *pisze-m, bierze-m, robi-m* and the correct *czyta-m*. It is worth noting that this invention made it possible for the child to avoid specific options related to the application of *-ę*, i.e. replacing the stem vowel by -ę (as in *pisz-e/pisz-ę*) versus adding the ending to it (as in *rob-i/rob-i-ę*), or finally stem alternations (e.g. *bierz-/bior-*, *widź/widz-*). Jaś applied the rule from the age of 2;0 to 3;6. A slightly different rule which involves adding *-em* was used by the child reported in Siatkowscy (1956) from 2;0 to 2;6.

4.4.2. *Sentence External Negation:* nie + *Sentence.* Most Polish children do not have any difficulties with sentence internal placement of the particle *nie*. In general, the negation system is mastered early. One child (Basia), however, displayed the strategy of NEG + S commonly used by English-speaking children (see Bellugi, 1967). This case was reported in Smoczyńska (1978a), where it was pointed out that Basia's overall syntactic development was much slower than that of the other four children studied. Basia used this rule in her early negated sentences, e.g. *Nie Basia śpi* 'not Basia sleeps'. The context clearly indicated that such utterances involved sentence negation rather than the anaphoric *nie* + positive statement, which is contrary to Bloom's (1970) claim. Furthermore the negations were used not only for rejection, as claimed by de Villiers and de Villiers (1979), but also in declarative negative statements and questions, e.g. *Nie tu brudno?* 'not here dirty?' (= 'It's not dirty here?'). Later on, Basia continued to place *nie* in sentence-initial position but moved the verb to the second position, which results in correct sentences, e.g. *Nie śpi Basia* 'Not sleeps Basia'. Eventually, she arrived at sentence-internal placement of *nie*, e.g. *Basia nie śpi* 'Basia not sleeps' (= Basia isn't sleeping'). On the other hand, Kaczmarek (1953) gives several examples of placing *nie* after the verb, e.g. (1;6) *płacze nie* 'cries not'; (1;8) *mamusia kopać będzie nie* 'Mommy dig will not'. Similar examples occur sporadically in Kasia's early negations.

Children learning English introduce multiple negation into their language. If this is a general tendency for children, Polish (with its multiple negation) should be an ideal language to learn. Yet this is not the case. While American children reconstruct the multiple negation, nonexistent in their language, Polish children do exactly the opposite. With Kasia and occasionally also with other children, the use of a negative pronoun involved the deletion of *nie*. This deletion resulted in literal counterparts of English sentences of the kind *I will say nothing, Nic powiem,* 'nothing I:will:say' while the correct Polish form is *Nic nie powiem.* Moreover, when the particle *nie* was used, the pronoun was not converted into its negative form,[16] e.g. Kasia (2;3) said, *A Jezus to zawsze nie gryzie* 'But Jesus always not bites' where *nigdy* 'never' should be used instead of *zawsze* 'always'. Rzętkowska (1980) reported the use of emphatic *wcale* 'at all' as a negative marker, e.g. (1;10) *Jadziusia wcale płacze* 'Jadwiga at all cries'.

4.4.3. *Syllabic Prepositions and Prefixes Realized as a Reduplication of the First Syllable of the Word.* This individual strategy was used by my own twin sons whose early speech was systematically recorded (see Section 2.1.2).[17] The twins began to combine words at the age of 2;4. At the beginning, they omitted all prepositions, using only appropriate case endings. At the age of 2;7 one of them, Michał S., began to produce strange forms of nouns with reduplicated first syllable, e.g. *ma-mamy, (s)to-tole* or *kup-kupkach.* The context, as well as case endings, clearly indicated that a prepositional phrase was intended, such as *do mamy* 'to Mom' *na stole* 'on table' and *po kupkach,* used in *Nie wolno chodzić po kupkach* '(One is) not allowed to:walk on (cow) excrements'. Immediately after the emergence of these forms, I tried to make the child repeat various kinds of prepositional phrases. This procedure revealed that the reduplication technique was consistently used to replace syllabic prepositions, while the asyllabic ones were continually omitted, e.g. the phrase *z mamą* 'with Mommy' was produced *mamą* with the preposition *z* deleted and *w lesie* 'in forest' was produced as *lesie.* Later on, the reduplication rule was extended to include syllabic verbal prefixes indicating perfectivity and/or modulation of verb meaning, e.g. *je-jechał* meant either *po-jechał* 'went', *wy-jechał* 'left', or *przy-jechał* 'arrived'.[18] The same procedure began to be used by the other twin, Maciek, 3 months later and it persisted in both of them for several months.

It is more than probable that the rule was based on a single instance, namely the frequently used phrase *do domu* 'to home', in which the phonetic form of the

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[16]Contrary to the English *some/any/no* tripartite distinction, Polish has the binary opposition, e.g. *ktoś/nikt* 'somebody/nobody'.

[17]From informal sources I have learned about three other cases of applying such a rule. Unfortunately, data were not collected.

[18]I noted one case of erroneous morphological analysis, in which the initial stem syllable of the word *wysoki* 'high' was treated as a prefix, which resulted in *so-soki* (cf. the prefix *wy-* in *wyjechał,* above).

preposition happens to be the same as that of the first syllable in *domu*. Since the rule was applied only in case of syllabic morphemes, it cannot be treated as a strictly grammatical rule, but rather as a procedure used to render an approximate prosodic shape of the prefixed form. There was no attempt to differentiate specific semantic content of various prepositions and prefixes. All received exactly the same treatment.

4.4.4. *First-Person Plural of the Past Tense: Total or Partial Identification of the Movable Ending with the Personal Pronoun.* First of all, it should be said that the first-person plural forms of the past tense appear relatively late (usually after 2;6) and due to the lack of appropriate context, they are rarely used. When referring to past actions carried out together with other persons, young children are more likely to use a singular subject and a comitative, which is acquired relatively early. Past forms of the first-person plural begin to be used more frequently about the age of 5 in the case of only children, and somewhat earlier if the child has siblings or attends a nursery school.

The Polish enclitic and movable ending *-śmy,* which is the unique marker for first-person plural of the past tense in all verbs, appears to cause specific difficulties for all children. As it happens, the phonetic shape of *-śmy* partially coincides with that of the respective personal pronoun *my* 'we'. As a consequence of this coincidence, two kinds of erroneous interpretation appear in the data. The first one consists in the identification of *my* and *-śmy*. The latter is considered as an allomorph of the former. Children correctly use *-śmy* in sentences which do not contain a pronoun, e.g. *Wczoraj poszli-śmy* 'yesterday went-1PL'. In contrast, when the pronoun is present, they omit the ending and say; *Wczoraj my poszli,* cf. correct *Wczoraj my poszli-śmy* or the more natural, *Wczoraj my-śmy poszli.*

Another interpretation is based on an erroneous analysis of the morpheme *-śmy* into two morphemes, i.e. the ending *-ś* and the pronoun *my*. Here again sentences without pronouns seem to be correct, but for children the form *poszliśmy* consists of three morphemes (PP + *-ś* + PRO) rather than two (PP + *-śmy*) as in adult language. This can be seen in such utterances as *My poszli-ś* or *My-ś poszli*. In the latter example, the idiosyncratic *-ś* ending is given the status of a movable suffix. For some children, such forms as *poszli* (first interpretation) or *poszli-ś* (second interpretation) appear also in sentences with no pronoun used. This indicates that children can correctly apply the pronoun ellipsis rules, but they delete the pronoun from the suffix *-śmy* where it is supposed to be placed. With some children, examples of overmarking can be found, e.g. *My-śmy poszli-śmy*. Finally, evidence for the full control of the adult form is found in utterances such as *My-śmy poszli* in which both the pronoun and the ending are present. In other cases, the erroneous rule can result in apparently correct forms.

In general, the kind of error presently under discussion is typically a late error. The omission of *-śmy* which results in forms like *My poszli* can also be found in the substandard Polish of adults with a low educational level. The role of incorrect input is evident in the case of Inka, who (at some period) used correct forms when referring to actions carried out together with her mother, but who used the *my* + PARTICIPLE form when reporting what she was doing with the children in the yard.

It would be interesting to compare the acquisition of the ending *-śmy* with that of *-ście* for second person plural which does not coincide phonetically with the corresponding pronoun *wy*. Unfortunately, contexts involving addressing several persons are even more rare than those referring to jointly performed past actions, and the second-person plural past-tense form is extremely infrequent in the data. The forms found in the data occurred late and were correct except for one case of overmarking in Witek (4;5) *Wy-ście przebierali-ście się* 'you-2PL changed-2PL REFL' (= 'you changed yourselves').

From the theoretical point of view, these errors provide evidence for the significance of prosodic features in establishing what is a word and what is not. Such errors would never occur if *-śmy* were not enclitic. A contrastive test-case is provided by the present-tense first-person plural ending *-my,* which is phonetically identical with the pronoun *my,* e.g. *czyta-my* 'read-1PL'. However, it is neither enclitic nor movable, cf. the stress pattern of *czytámy* with that of *czytáli-śmy.* Conseqeuntly, children never try to identify this ending with the pronoun and use correct forms from the very beginning, with no errors at all.

4.4.5. *An Idiosyncratic Causative Construction.* This is also an individual case. When he was 2;11, my youngest son, Wawrzont, invented a syntactic construction which does not exist in Polish. He used the verb *karmić* 'to feed' in an overextended causative sense, e.g. *Mama mnie pokarmi umyć rączki* 'Mommy me will:feed to:wash hands'. He meant that he wanted Mommy to wash his hands instead of him doing it by himself. Other examples involved 'feeding him' to eat something although the meaning of 'eat' is normally included in that of 'feed', i.e. 'make eat'; 'feeding him' to put on his clothes; 'feeding him' to wee-wee; or even 'feeding him' to draw a dog after he declared he was unable to do it. In all these instances, a simple transitive sentence would have been quite appropriate, e.g., 'Mommy will wash my hands' or 'draw a dog for me'. What the child intended to convey by his causative constructions was a special emphasis on his refusal to do something by himself, that he was in fact able to. Hence these constructions had a definite pragmatic sense which was narrower than that of the English *make* + VERB structure. This pragmatic sense emerged in response to a specific situation. I was very busy for several weeks and although I was present at home, other people had to take care of the child. The origin of this construction can be found in a concrete proportion, i.e. 'I am eating by myself': 'Mommy is feeding me.' The word 'feed' became a causative auxiliary. An especially interesting aspect of this construction is that it represents the 'accusativus cum infinitivo' type which is practically nonexistent in Polish. In other words Wawrzont added an infinitival complement to the accusative object normally governed by *karmić*. This construction was strongly productive for a limited period of time, and disappeared simultaneously with the disappearance of the appropriate context, that is, as soon as I finished my work.

4.5. *Free Variation*

This kind of error occurs when the child has acquired alternative forms without learning specific criteria of their distribution, which are either irregular or too complex or inconsistent with his present system.

4.5.1. *The Choice of Present (PRES) vs. Infinitive (INF) Stem Form of the Verb.* Establishing which verb stem should be used with a given form takes over two years. From 2 to 4, the erroneous choice of the stem is clearly the most frequent error with all children. As noticed in Zarębina (1965), the number of such errors increases with age in proportion to the growth of vocabulary. From 4;0 on, the number of errors diminishes, but those involving especially complicated kinds of verbs persist till 6;0 and over.

Considerable complexity, and also irregularity of the adult system in this respect has been discussed in Section 1. While in some verbs the phonetic realization of the stem does not change, e.g. *czyta/czytać* 'read' (3SG:PRES/INF), others require complex transformations, e.g. *rysuje/rysować* 'draw', *pierze/prać* 'wash', and *weźmie/wziąć* 'take'.

According to Brenstiern-Pfanhauser (1930), the child displays a tendency towards building all verb forms from the stem that he learned first. On the other hand, Zarębina (1965) claims that this is true only for the early stages. After the child has learned both stems, he builds the given form in an ad hoc way using one or the other stem. Thus one can observe two types of errors occurring simultaneously: imperfective present tense or perfective future tense forms created from infinitive stems and past tense forms created from present tense stems. For instance, the present tense form *rysowa* '(he):draws' is built on the infinitive stem (*rysowa-ć* 'draw-INF') instead of the correct *rysuje*. For the verb *prać* 'to:wash' we find on the one hand the past tense form *pierzy-ł* '(he):washed' obviously based on the present tense *pierz-e* '(he):washes' instead of the correct *pra-ł* (cf. infinitive *pra-ć*). On the other hand, however, present tense forms happen to be based on the infinitive, e.g. *pra* or *praje* instead of *pierze*.

As shown by the following examples from Inka, when coping with such problems, children do not avail themselves of the correct model, and even if they do, it is only to produce an ad hoc correct form; soon afterwards they revert to the old one. At 2;7 Inka asked her father: *Co to rysowa-sz tatusiu?* 'What are you drawing, Dad?' (cf. correct *rysuj-esz*). Father: *Nie rysuj-ę, tylko pisz-ę.* 'I am not drawing, but I am writing'. Inka: *Co pisa-sz?* 'What are you writing?' (cf. correct *pisz-esz*). At 2;4 Inka's grandmother said: *A babcia ci coś przywioz-ł-a* 'Granny has brought you something'. Inka: *Co przywioz-ł-a-ś babciu?* 'What have you brought, Granny?' *Kolejkę przywiezia-ł-a-ś mi?* 'A train did you bring me' (cf. correct *przywiozł-a-ś*).

Early examples of such errors have been reported in all diary studies, and those for later periods can be found in Siatkowscy (1956) and Wójtowicz (1959). Gvozdev (1949) has presented a detailed discussion of similar errors in Russian, and Guillaume (1927) has done the same for French. The phenomenon should be investigated systematically in order to establish which kinds of verbs are especially difficult, and to look for some rules which could underlie this overall picture of free variation. In all these cases, the verb is clearly marked for tense and aspect although the given realization of these categories does not correspond to the adult norm. From the theoretical point of view, however, this phenomenon—in spite of its wide range—is of relatively little interest, as the irregularity of the system (if it can be considered a system at all) is immense.

4.5.2. *Cardinal Numeral 'Two': Feminine Form* dwie *Versus Nonfeminine* dwa. Unlike the errors discussed above, the occurrence of a free variation pattern in this case is extremely interesting. The cardinal numeral 'two' when used with reference to nonvirile nouns[19] has two distinct forms: *dwie* for feminine nouns and *dwa* for masculine and neuter, where the latter form is unmarked (e.g. used while counting: *jeden, dwa, trzy . . .*). Most of the children studied had problems establishing the correct distribution of these forms in spite of the fact that it is determined by a very simple rule which is based on grammatical gender, and gender is a category which is acquired a long time before numerals come in use. Initially, children use the unmarked form *dwa* regardless of gender. Later on, both forms are found to occur in free variation.

For Jaś, this error persisted even in the latest recordings (6;0). His case is especially interesting. Jaś was very interested in numbers, and numerals were unusually frequent in his speech.[20] Not only did he frequently speak about thousands and millions, but even his nostrils were numbered and received specific labels as 'the first one' and 'the second one'. His data provide obvious support for the claim that training does not help to acquire even such a simple rule if it happens to be blocked for some mysterious reasons. When trying to find some rule governing the distribution of *dwa/dwie,* I was able to analyze more than 200 examples of 'two' + NOUN constructions recorded from 2 to 6. Still, I failed to find any rule. Clearly, both forms were used in free variation with a tendency to use the same form at a given moment, e.g. at (3;5) he said *dwi-e bramk-i i dwi-e domk-i* 'two-FEM gate-FEM:PL and two-FEM house-MASC:PL' (= 'two gates and two houses') cf. correct *dwie bramki i dwa domki.* After he was corrected by

[19]Virile nouns involve complicated rules of numeral agreement, which will not be discussed here.

[20]The data were collected more than 20 years ago, and it might be of some interest to add that those early interests prevailed, since he is a statistician by now.

his mother ('One doesn't say *dwie domki* but *dwa domki*'), he corrected himself with *dwa domki i dwa bramki,* with the incorrect form of 'two' for *bramki* this time. As adults started correcting his utterances, he began analyzing the problem on the metalinguistic level. The only result of this was "correcting" adults, that is, providing erroneous forms with the correct argumentation concerning gender, e.g. 'Auntie, you should say *dwi-e numerk-i* 'two-FEM number-MASC:PL' because one says *ten numerek* 'this:MASC:SG number:MASC:SG'. He also began to produce both forms at the same time, leaving the option to the listener, e.g. *Znalazłem dw-a czy dwi-e szmatk-i* 'I:found two-MASC or two-FEM rag-FEM:PL' (= 'I found two or two rags').

For other children, this error did not persist for such a long time, but still it could be considered as a typical late error, for instance, it appears in the Baudouin data. I am unable to provide an adequate explanation for this error although three factors can be demonstrated to be of some importance. Firstly, among plural cardinal numerals only 'two' displays such a gender distinction in addition to the opposition of virile/nonvirile forms; 'three' and 'four' having only the latter differentiation. If this factor were the only one at play, one would expect the children to ignore the distinction *dwa/dwie* and use only *dwa* in order to preserve paradigmatic relations among numerals. In fact, this distribution does occur, but only in the early stages.

Secondly, the nonvirile nominative plural form of adjectives ends in *-e,* e.g. *duż-e klock-i, piłk-i, ciastk-a* 'big-NVIR:NOM:PL, block-NVIR:MASC:PL, ball-NVIR:FEM:PL, biscuit-NVIR:NEUT:PL'. If the child were to treat *dw-a/dwi-e* as a kind of adjectival form (by analogy to *jeden-ø/jedn-a/jedn-o* 'one', which takes regular adjective declension forms), he would be expected to use the form *dwie* exclusively for all nonvirile nouns—a prediction that is not supported by the data. Finally, it could be hypothesized that children simply refuse to take into account the masculine/feminine/neuter distinction when using plural forms. This would be congruent with one of the explanations offered in connection with their generalizing of the genitive plural *-ów* ending (see Section 4.3.2.2)[21] Note, however, that the distribution of 'two' forms is consistent with the main distinction within the singular (feminine vs. nonfeminine), whereas that of *-ów/ø* is not. Yet in the case of Jaś, the latter rule is acquired EARLIER than the former. That is why I am unable to produce any definite explanation.

4.5.3. *Using Masculine or Feminine Forms of Adjectives and Past-Tense Verbs in Free Variation.* This kind of error differs considerably from those described above. The rules are neither too complex nor incompatible with the system. On the contrary, they are simple and consistent, but the child simply does not know them yet. The occurrence of these errors is limited to the earliest

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[21]Children, however, are perfectly aware of the gender of the noun in singular, e.g. *dw-a śrub-y, jedn-a . . . drug-a . . .* 'two-MASC screws-NVIR, one-FEM . . . other-FEM'.

instances of using adjectives and past tense forms, e.g. *tatuś mił-a* 'Daddy nice-FEM', *babcia poszedł-ø* 'Granny went-3SG:MASC'. At the very beginning, *miła* or *poszedł* can be simply the only form of the word that the child knows. These errors disappear completely long before the age of 2 (see Section 6.1.1).

4.6. *Partial Application of a Rule*

These errors reveal difficulties in the complete application of a complex rule which involves performing several operations. The problem does not consist of learning the criteria, but rather it concerns technical difficulties in producing a correct form.

4.6.1. *Nouns: Correct Ending Added to an Incorrect Stem Form.* Errors of this type occur infrequently in all children. The basic noun form is nominative singular. The child tends to build other forms from the nominative form. However, there are stem alternations in the nominative singular, and oblique cases have a different stem. In Polish there is a phonological rule according to which the opposition of voiced/voiceless becomes neutralized in word final position, e.g. /χlep/ versus /χleba/ 'bread' for nominative versus genitive but /χu̯op/ : /χu̯opa/ 'peasant'. In order to know whether the final voiceless consonant in the nominative form alternates with its voiced counterpart, the child must memorize the form that a given stem takes in oblique cases. The phonological rule is acquired early and errors such as *chlepa* instead of *chleba* typically occur very early. When this kind of error occurs at a later stage of development, it occurs when the child has just heard the nominative form for the first time.

Another rule requires that *-e-* be inserted between consonants in order to avoid an unacceptable word-final cluster. It appears typically in diminutive masculine nouns with the *-k* suffix, e.g. *kot-k-a* 'cat-DIM-GEN' but *kot-(e)k-ø* 'cat-DIM-NOM'. Because of the abundance of diminutive forms, this rule is acquired very early, and children normally delete the inserted *-e-* when producing oblique case forms. Errors such as *kotek-a* appear only in the earliest period. Other forms with the *-e-* inserted into the stem itself prove more difficult especially if the stem is relatively short (one or two syllables), e.g. the genitive of the word *lew* /lef/ 'lion' is frequently realized as *lew-a* (cf. correct *lw-a*) or even *lef-a* if the unvoiced /f/ is preserved and *ogień* 'fire' results in *ogienia* (cf. correct *ognia*).

Sometimes stem-internal consonants and/or vowels alternate following definite alternation patterns. What seems to be most difficult for the child is the case when several phonemes alternate according to distinct patterns. The following example will make this clear. Michał (2;4) wanted to say 'Good morning, eagle!' *Dzień dobry, orle!*, where the vocative *orle* constrasts with the nominative *orzeł*. He began with *Dzień dobry, orzele* /oželе/ then corrected himself with *orzle* /ožle/, and eventually, he gave up and used the nominative *orzeł* /ožeu̯/ instead. Producing the correct version required three transformations of the nominative stem form, i.e. /u̯/ to /l/, deletion of /e/, and /ž/ to /r/. The sequence of forms that he produced demonstrates that he was able to perform one transformation at a time. Although he failed to perform the third one, the fact that he reverted to the more safe nominative form (also acceptable in the vocative function) proves that he was not satisfied with the form he arrived at. Wójtowicz (1959) noted that errors of preserving the nominative singular stem in oblique cases are much more frequent than those involving the reverse process, e.g. an incorrect nominative singular form *ojc* 'father', based on the genitive singular *ojc-a,* (cf. correct nominative singular *ojciec*).

4.6.2. *Preserving Case Forms in Negated Sentences.* The rule of converting the accusative object of transitive sentences into genitive when the predicate is negated is likely to create difficulties at least for some children. Sometimes the rule is grasped at the earliest period, e.g. for Michał not a single error was found for the period 2;0 to 6;0, while other children tend to preserve the case ending used in non-negated sentences and they say *Nie czytam książk-ę* 'not I:read book-ACC' instead of *książk-i* 'book-GEN'. This can be seen in the early data for Basia, who used the genitive case correctly with possessives, as well as in contexts involving the preposition *do* 'to', but failed to use it with negated existential sentences with *niema* 'there:is:no' and preserved the nominative form typical for subjects of positive existential sentences. Similarly, after she began constructing negated transitives, the object appeared in the accusative case. Eventually, she learned the adult rule, but she frequently failed to apply it in negated sentences with modals. Such errors occurred also with other children.

4.6.3. *Conditional Forms: Wrong Placement of the Person Suffix.* This error can be found to occur in practically all the children studied for at least a short period. According to the adult rule, the person suffix for first and second person in singular and plural must follow the conditional particle *by* regardless of the place in which this particle happens to occur, that is, whether it follows the past participle (e.g. *pisał-BY-m*), precedes the verb (e.g. *Ja BY-m pisał*), or constitutes a part of the connective *żeby* (e.g. *żeBY-m pisał*).

A widespread error concerning the use of conditional forms is that of placing the suffix immediately after the participle (which results in a regular past-tense form) while leaving the particle *by* either to follow it or to occur in an enclitic position, e.g. *pisał-(e)m-by* or *Ja by pisał*-(e)m 'I would write'. Here the children apply the rule: Add *by* to the past-tense form, with the option of moving *by* to an enclitic position. This contrasts with the adult rule: Insert *by* between the participle and the person suffix so that *by* + PERSON forms an enclitic. This erroneous rule is probably due to the influence of the third-person forms, in which the past participle is identical to the past-tense form where both rules lead to the same correct result, i.e. the child's *pisał* + $\emptyset$ + *by* equals the adult's *pisał* + *by* + $\emptyset$ (see also Section 6.1.3).

With some children this error was typical only during the early uses of the conditional form while in others it was more persistent. In the case of Jaś, for instance, the correct order of morphemes had not been acquired by the age of 6. Early errors involving the incorrect order of morphemes and/or overmarking for person (see Section 4.2) can be accounted for if we propose that the child builds the conditional form on the basis of the past-tense form, and not the past participle.[22] As to late errors, some additional factors can contribute to their persistence. Jaś, for instance, was more likely to use the correct form in main clauses than in subordinate clauses, and he was especially reluctant to attach the person suffix to the connective *żeby*. It could be hypothesized that children avoid applying a verbal suffix to a morpheme which is not a verb, and the morpheme *by* (even though, historically, it comes from an aorist) does not have the status of an auxiliary verb. For *żeby,* it can be even more difficult for the child to accept the rule which requires that a connective be conjugated. Therefore, the adult rules can be rejected because they violate the well-established distinction of word classes.

4.6.4. *Self-Reference: Using Feminine Forms.* This error appears frequently with boys when they begin using the first-person form of verbs. It has nothing to do with gender agreement, since the latter is firmly established before the occurrence of these errors.[23] In my data the following sequence can be found. After the emergence of feminine forms of first person in past-tense verbs, e.g. feminine *pisał-a-m* instead of masculine *pisał-ø-(e)m,* the use of the feminine form was overextended in two ways to include: (1) adjectives referring to the child himself, e.g. *Jestem głodn-a* 'I:am hungry-FEM, cf. correct *głodn-y* 'hungry-MASC', and (2) the third-person past-tense form of verbs but only in self-reference, e.g. *Michał pisał-a,* 'Michael wrote-3SG:FEM', (cf. correct *pisał -ø,* 'wrote-3SG:MASC'). Earlier, these forms had the correct gender marking. These overextensions quickly disappeared while the feminine first-person forms persisted for several more months, occurring in free variation with correct masculine forms. Eventually, the masculine form became the only one used by the child when referring to himself. This phenomenon was sometimes accompanied

[22]It is not the case, however, that children are unable to single out the past participle form, since they use it very early in correct future tense forms in which the person is marked on the auxiliary by means of special endings and not added to the participle, e.g. *będ-ę pisał, będzie-sz pisał* 'will -1SG write:PP, will-2SG write:PP') or overmarking for person (e.g. *będ-ę pisał-(e)m* 'will-1SG write:PP-1SG') are extremely rare. But on the other hand, a strange form *mogł(e)-by-m* (correct *mógł -by-m*), produced by Jaś in his effort to order morphemes correctly, is clearly based on the past tense form *mogł-(e)m* 'I-could', as revealed by the presence of phonetic (e).

[23]Gvozdev (1949) reports quite a similar phenomenon in Zhenya's speech, noting that gender agreement with nouns was mastered by the age of 2;6, while feminine past-tense forms with self-reference continued to be used till as late as 3;0.

by the use of the masculine second-person form irrespective of the sex of the person addressed (see also Rzętkowska, 1909, and Brenstiern-Pfanhauser, 1930).

It is quite clear that when learning the rules of person switching, the male child employs the first-person form which he hears most frequently from his mother, while for the second person he selects the masculine form used by adults when addressing him. For girls, unless they are brought up by their fathers, the task is more simple because boys must perform an additional operation to arrive at the correct form. This error is rare with boys who have elder male siblings, since elder brothers provide the correct model.

4.7. *Summary*

The above presentation of grammatical errors can be considered as complete, in the sense that it gives an account of all systematic errors found in the data, regardless of their duration and of whether they were made by most children studied or only one of them. Special attention was given to errors occurring with respect to regular adult language categories, while the children's problems with irregular categories were only mentioned, even if they produced a large number of erroneous forms. If a category is not reported here or in the section on U-shaped developments (Section 5) or delayed acquisition (Section 6.3), it means that its acquisition is error-free and does not cause any problems to children. The comparisons of what is difficult for children with what is easily acquired allow for some generalizations on children's strategies presented in Section 7.

5. U-Shaped Developments

5.1. *Possessive and Attributive Modifiers*

In Polish, possession is expressed by means of a genitival construction, while attribution is realized mostly by an adjective modifying the head noun.[24] In the earliest stages of syntactic development, two distinct patterns appear (attribute plus head and possessive genitive plus head) which are subsequently used as constituents of expanded sentences (Smoczyńska, 1978a).

During the third year of life, children learn adjectival declension, and they try to reduce the number of rules of noun modification by replacing genitival possessors with denominal adjectives. Chmura-Klekotowa (1971) reports a wide use of such possessive adjectives, e.g. *mamusin, mamusiny,* or *mamusiowy* instead of the genitive *mamusi* 'Mommy's'.

[24]Although denominal possessive adjectives exist in Polish, they are not widely used by adults, the genitival form being much more common. In Serbo-Croatian and Russian the situation is different: possessive adjectives are used much more frequently than genitival forms.

On the other hand, the data from Kasia, who did not use such possessive adjectives, provide interesting examples of adding other case endings to the genitive form of the noun in order to achieve agreement in case with the head noun. Normally, the genitive modifier preserves its form regardless of the case of the head. Kasia, however, treated it as if it were an adjective, e.g. *w pokoj-u Anul-i-m* 'in room-LOC Anula-GEN-LOC' or *Anul-emi kredkami* '(with) Anula-INSTR:PL pencils:INSTR:PL' (cf. correct *w pokoju Anuli* and *Anuli kredkami*). Chmura-Klekotowa (1971) has cited similar examples.

After the children have established separate rules for both kinds of noun modification and learned possessive pronouns, another kind of regularization appears. The Polish system is inconsistent in that the function of possessive is performed by possessive adjectives for the first and second person (as well as the reflexive) while in the third person, genitival forms of the personal pronoun are used, which do not agree with the head. In the following set of examples the first three show agreement and the second three do not: *Moj-a książk-a* 'my-NOM book-NOM', *moj-ą książk-ę* 'my-ACC book-ACC', and *w moj-ej książc-e* 'in my-LOC book-LOC' contrast with *jego książk-a* 'his-GEN book-NOM', *jego książk-ę* 'his-GEN book-ACC', and *w je-go książc-e* 'in his–GEN book-LOC'. The regularization made by children consists of using the genitive form of the personal pronoun of first and second person instead of the possessive adjective, e.g. *Michał chce do MNIE łóżka* 'Michał wants (to come) into I's bed' (cf. correct: *do MOJEGO łóżka* 'into MY bed') or *Gdzie jest CIEBIE rączka?* 'where is YOU's hand?' (cf. correct: *TWOJA rączka* 'YOUR hand'), cited by Rzętkowska (1908). Typically, instead of using a specific question word *czyj?* 'whose?' children incorrectly employ the genitive question word *kogo?* 'of:who?'.

5.2. *Embedded Infinitival Complement Replaced by a Full Clause*

Similar to English-speaking children, the earliest kind of embedded constructions with the verb 'want' is that with coreferential subjects ('I want' plus infinitive). When the two subjects are not coreferential, a construction with an embedded *żeby*-clause is used, equivalent to the English 'I want him' plus infinitive.

With Jaś, infinitival clauses emerged at 2;0, e.g. *Chcem pić dżem w słoiku* 'I:want to:drink jam in jar', and the explicit *żeby*-clauses appeared three months later, e.g. Mother: *Co ty chciałeś?* 'What do you want?' Jaś: *Żeby mamusia szła do kuchni z Jasiem* 'that Mommy goes to kitchen with Jaś'. From this time on, constructions of both kinds were frequently used, without errors. Surprisingly enough, within the period of 3;1 to 3;4, a number of examples were recorded in which the explicit *żeby*-clause was used with coreferentiality, e.g. *Ja chcę, żeby miałem kotka* 'I want that I:have cat' (cf. correct *Ja chcę mieć kotka* 'I want to:have cat'). Although the infinitival construction acquired a long time earlier was not completely ruled out by the *żeby*-clause (the errors constitute about 25% of all instances of coreferential 'want' sentences), the proportion is important enough to infer that an attempt at reducing the variety of rules had taken place.

6. Timing of Acquisition

This section is concerned with those linguistic categories which are mastered by Polish children either especially early or especially late. There is a difficulty with what should be taken as the reference point with which the Polish acquisition pattern could be compared in order to evaluate precociousness or delay in the mastery of particular categories. A common option here is to take the acquisition of English as the reference point, since it is best described and widely known. This option, however, would lead us, for instance, to state that for most languages the mastery of negative and interrogative sentences is precocious, while in fact, it is in English that it is delayed because of the formal complexity of these transformations in that language. Therefore I will limit myself to presenting only those categories which seem to be mastered in Polish significantly earlier or significantly later than in several other languages.

6.1. *Precocious Acquisition*

The categories reported here are: grammatical gender, which is acquired earlier than in Russian (Section 6.1.1); tense and aspect, both of which are acquired simultaneously and very early as compared with other languages (Section 6.1.2, presented by Richard Weist); and hypothetical reference, which appears in Polish children two years earlier than in English-speaking subjects (6.1.3). As for the acquisition of complex sentences, it takes place in Polish either at the same time as in other languages or slightly earlier, or—with some types of temporal clauses—later. In order to present the data on complex sentences in a more or less systematic way, I included a separate section (6.2), which follows the present section.

6.1.1. *Grammatical Gender: Declensional Patterns and Gender Agreement.*[25] The acquisition of grammatical gender has been reported to occur late in Russian children, both with respect to the establishment of noun inflectional patterns and to the control of gender agreement in adjectives and past-tense verbs (Gvozdev, 1949; Zakharova, 1973; Popova, 1973; Slobin, 1966, 1968, 1973). A phenomenon typical in the acquisition of Russian is that of "inflectional imperialism." The child seizes upon one ending for a given case and uses it for all

[25]The present discussion is limited to the acquisition of the gender distinction in singular (masculine/feminine/neuter); the plural distinction into virile/nonvirile, which is acquired late, is discussed in Section 6.3.1.

nouns irrespective of their gender. Later on, he selects another "imperialistic" ending to drive out the initial "imperialistic" ending. Slobin (1966, 1968) gave a detailed description of this phenomenon, trying to establish the determinants governing the selection of the given ending as dominant. As far as gender is concerned, he concluded that this category seems to be difficult because of its arbitrariness.

My analysis of the early data of several Polish children, together with careful reading of Polish diary studies, reveals that the acquisition of gender is precocious in Polish children. Most of the children have acquired this distinction before the age of 2. First, when a case category emerges, several endings appear simultaneously according to the gender of the noun; thus, there is no inflectional imperialism. Second, the occurrence of inappropriate gender agreements is limited to a very short period when adjectives, past-tense forms, or pronouns begin to appear, and it should be attributed to the lack of knowledge of possible differentiation of these forms rather than of that concerning noun gender. (Using feminine forms when referring to oneself (Section 4.6.4) is quite a separate phenomenon, which consists in treating the first person-form used by the mother as the only one in existence.)

The early acquisition of gender in Polish is even more puzzling if one takes into account the close similarity of the Polish and the Russian declensional systems. The distribution of endings in the singular is almost identical. The Polish declension looks as if the Russian endings were translated into the Polish phonological system. In both languages the criterial nominative singular endings are ø for masculine, *-a* for feminine, and *-o*/*-e* for neuter. Moreover, both languages have a limited number of masculine nouns ending in *-a* which take feminine case forms and masculine agreement, and a large class of irregular feminine nouns ending in ø in the nominative singular having a special set of case endings. Two apparently minor factors appear to cause a considerable delay in Russian acquisition. First, the fact that the Russian unstressed *o* is pronounced as *a;* and second, the existence of diminutive masculine forms which end in *-a* and are declined like feminine nouns, e.g. *mishka*/*myedvyed* 'bear', *zayka*/*zayats* 'hare', and, very frequently, boys' first names such as *Zhenya, Sasha, Kolya.* These two apparently minor facts seem to be the cause of the whole confusion. While most of the nouns ending in *-a* to which Polish children are exposed are regular feminine nouns, the input to the Russian child contains different declension and agreement patterns, e.g. *mama* 'mommy' with a feminine declension and agreement, *Zhenya* 'boy's name' with a feminine declension and masculine agreement, and *yábloko* [*yáblaka*] 'apple' with a neuter declension and a neuter agreement (*-o* is identical to the feminine *-a* when unstressed). Such an inconsistent input makes it impossible for the Russian child to discover the criteria of grammatical gender, while Polish children can tolerate the limited amount of inconsistency to which they are exposed, simply regularizing irregular instances according to the tripartite gender distinction (see Section 4.3.1.3).

Early acquisition of gender in Polish shows that the child is able to learn rules which are based on totally arbitrary criteria, provided these criteria are consistent and clear enough to be discovered, and that selecting one salient (or phonetically unique) ending is only a strategy that Russian children apply when faced with the impossibility of discovering adult criteria.

6.1.2. *Tense and Aspect* **[WEIST].** Weist, Wysocka, Witkowska-Stadnik, Buczowska, and Konieczna (1984) and Weist (1983a) have conducted the most intensive investigation of tense and aspect in child Polish. Given that tense expresses a deictic relationship between speech time and event time, Antinucci and Miller (1976), Aksu (1978), Stephany (1981), and others proposed that the initial tense morphology in languages such as Italian, Turkish, and Greek was "defective" in its function. According to the strongest form of this "defective tense" hypothesis (see Antinucci & Miller), children between the ages of approximately 1;6 and 2;6 cannot express temporal deictic relationships because they lack the necessary abstract conceptual capacity. It was proposed that when tense morphology emerges it codes the aspectual distinction between completed and ongoing situations rather than a relationship between speech time and event time. Hence tense morphology was supposed to be coding an aspectual distinction, not a tense distinction. The research on Polish challenges this hypothesis.

The defective tense hypothesis involved three lines of argumentation and can be viewed as having the following three components: (1) semantic—only telic verbs will be inflected in the past tense because a prior change of state with a speech-time resulting state is required; (2) syntactic—aspectual distinctions will not be made independently of tense distinctions, and present versus past morphological distinctions will correspond in a one-to-one manner with the situational properties "completed" versus "ongoing"; and (3) temporal—children will refer only to the immediate past. Evidence supporting each component of the argument can be found in the research of Antinucci and Miller (1976), Stephany (1981), and Szagun (1979), respectively. In fact, none of these components of the defective tense argument are supported by the evolution of tense and aspect distinctions in child Polish—nor any other Slavic language for that matter.

When considering the semantic component of the argument, one must first draw attention to the problem of defining subcategories of verbs which are relevant to verbal aspect (or *Aktionsart*). Since defining categories of verbs according to the situations to which they refer leads to a hopelessly circular argument, objective definitions are needed. Weist et al. used a contemporary version (Dowty, 1979) of Vendler's classification schema, which was shaped for Polish with the guidance of Cochrane's (1977) work on Serbo-Croatian and Miller's (1970) work on Russian. Growing out of this framework, objective distinctions were made between state versus dynamic verbs, atelic (or activity) versus telic verbs, and achievement versus accomplishment verbs. From the initial period of tensed language, Polish children use imperfective activity verbs in the past, producing such utterances as the following: (1) Marta (1;7): *Leciał samolot* 'fly:IPFV:PAST plane' (= 'The plane was flying'), (2) Bartosz (1;8): *Pływała się* 'swim:IPFV:PAST', and (3) Paulina (1;11): *Jadłam* 'eat:IPFV:PAST'. The production of activity verbs with past-tense inflections can be found in other research on Polish (Smoczyńska, 1978a), research on Russian (Gvozdev, 1961), and on Serbo-Croatian (Radulović, 1975). This phenomenon is by no means unique to Slavic languages, e.g., Spanish (Eisenberg, 1982), Greek (Stephany, 1981), Japanese (Rispoli, 1981), and Finnish (Toivainen, 1980).

Regarding the syntactic component of the defective tense hypothesis, tense and aspect morphology emerge simultaneously in Polish. During the acquisition of the verb system, there is an early period during which children use only frozen forms. There is some evidence (e.g. Zarębina, 1965) for a primitive distinction in mood at this point, since indicative forms are typically used to make statements and imperative forms to make requests. The indicative forms are typically imperfective verbs in the present tense and in the third-person singular. Zarębina has shown that this third-person form is generally applied making reference to second as well as third person. Typically when children are between about 1;6 and 1;9, they begin to use past-tense inflections and perfective verb forms. References to the future are made at that time or soon thereafter. Since the present perfective meaning is impossible in Polish, the combination of three tenses and two basic aspects produces five possible verb forms. Only the periphrastic future form for imperfective verbs is sometimes missing (or difficult to identify) in the initial set of tense/aspect combinations. These distinctions appear to emerge without errors in Russian (Gvozdev, 1961) and in Serbo-Croatian (Radulović, 1975) as well as in Polish. There is no evidence WHATSOEVER that tense morphology codes the aspectual distinction between perfective and imperfective or that tense morphology emerges as a redundant appendage.

When considering the temporal component of the overall argument, the first obvious finding is that the resulting state of a previous change of state is not required for children to make reference to past events. At 1;7, for example, Marta was talking to her grandmother about their recent trip to the seashore and in response to the question *A co panowie robili?* 'And what were the men doing [IPVF]?', Marta replied *łowili* 'They were catching [IPFV]'; and in response to further questioning, *rybki* 'fish'. *Łowili . . . rybki* is an imperfective accomplishment verb phrase and as such a clear terminal point is implied, yet the child did not need any specific retrieval cues much less the resulting catch to refer to this event. Weist et al. partitioned all of the utterances which made reference to a prior situation into the categories "modeled" versus "spontaneous" and "immediate" versus "moderately remote" (more than two turns in the discourse). During the early period of tensed language, more than one-fourth of the utterances of the children were both spontaneous and moderately remote. In summary, tense and aspect emerge simultaneously and from the initial period of tensed utterances, Polish children produce activity verb phrases in the past, imperfective as well as perfective past forms, and moderately remote references to the past. Experimentation within the cross-sectional component of the research design only confirms this general conclusion.[26] [**WEIST**]

In general, my data support Weist's findings. After the earliest period of the very emergence of tense/aspect distinctions, no instances were found of inappropriate use of tenses. Aspectual errors do occur, but they are insignificant in proportion to the total frequency of verbs (Polish children are forced to make an aspectual option each time they use a verb); for instance, sometimes the analytical future form occurs with a perfective verb (e.g. *będę na-pisać* 'I:shall PFV-write' cf. correct PFV *na-piszę* or IPFV *będę pisać*), but it should be treated as a mistake, since children frequently correct themselves after having produced such a form.

[**WEIST**] Considering children who are somewhat older, there are two sources of data which attest to the child's control of aspectual distinctions in comprehension and production. Weist (1983a) used a sentence-picture matching task to evaluate the capacity of children to comprehend tense and aspect distinctions which were made either by prefixation or by suffixation. Two groups of ten children at age levels 2;6 and 3;6 participated in the experiment. The problems concerning aspectual distinctions contrasted pictures of completed versus incomplete situations and sentences differing only in the form of the verb, e.g. *zjadł/jadł* PFV/IPFV 'ate/ate, was eating' or *zamknął/zamykał* PFV/IPFV 'closed/closed, was closing'. The children in both groups were able to comprehend the aspectual distinction.

Regarding productive capabilities, Chmura-Klekotowa (1967, 1968) has contributed important insights from her work on neologisms. Polish children use prefixation and suffixation processes to invent aspectual contrasts.[27] At 3;4, one child invented the imperfective form *zwyczaić* 'to:get:used:to'. For the adult, the aspectual pair is *przyzwyczaić/przyzwyczajać się* PFV/IPFV. The child appears to have used the perfective form as the basis for a prefix deletion in the formulation of his imperfective form. In the next example, the process of suffixation was used by a child at 4;0 to create the form *łaskotnę* 'I:will:tickle'. In contrast to the adult's aspectual pair which is based on prefixation *łaskotać/połaskotać* IPFV/PFV, the child invents the perfective form *łaskot-ną-ć* 'tickle-PFV-INF' by suffixation. Gvozdev (1961, pp. 424–427) has shown that Russian children

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[26][WEIST] This section replaces an earlier section which Smoczyńska based on the preliminary findings of this research which were reported in Kraków (Weist, 1980). In this research on tense and aspect, the classification of verbs always included verb phrase context (see Verkuyl, 1972). [WEIST]

[27][WEIST] Slobin (personal communication) has made the interesting observation that Polish and Russian children create neologisms differently, depending on whether a tense distinction or an aspect distinction is being constructed. When making a tense distinction, children appear to be searching for a common stem (see Section 4.5.1). However, when making an aspect distinction, children try to construct two different forms. [WEIST]

also use prefixation and suffixation to invent aspectual pairs. The form *zdravil* 'congratulated' observed at 6;10 was derived by prefix deletion from the perfective form *po-zdravit'*. The adult's aspectual pair is *pozdravit'/pozdravlyat'* PFV/IPFV. At 2;10 the form *katnúl* 'rolled' was observed. The perfective form *katnut'* was constructed from the imperfective *katat'*, by *-nu* suffixation. For the adult the aspectual pair is formed by prefixation *katat'/vykatat'*. [**WEIST**]

Adverbs which point to aspectual and temporal characteristics of events also emerge very early. Among the earliest adverbs used are those indicating completion vs. duration of an action: *jeszcze* 'more, again, still' is a pivot word for recurrence, but it is also used to express imperfectivity (cf. also *jeszcze nie* 'not yet'), and the opposite term is *już* 'already' (Przetacznikowa, 1956; Smoczyńska, 1978a). Another very frequent adverb is *teraz* 'now', which is used mostly to mark immediate futurity. In some children, numerous temporal adverbs are used in early speech, e.g. Kasia at 1;9 used *dziś* 'today', *jutro* 'tomorrow', *niedługo* 'soon', *potem* 'afterwards', and even asked *kiedy?* 'when' questions. These time words were used appropriately in that they referred to a kind of temporal notion; however, their specific meanings were not yet acquired. As a matter of fact, such notions are mastered very late: during the whole period under study, numerous examples were found of using 'tomorrow' instead of 'yesterday', 'afterwards' instead of 'before', etc., whereas tense-marking on the verb was always correct. Words expressing 'timelessness' such as *zawsze* 'always' and *nigdy* 'never' emerge before the age of 3 that is, much earlier than in English-speaking children (cf. Cromer, 1968).

6.1.3. *Hypothetical Reference.* Brown (1973) states that the hypothetical use of past-tense forms comes very late in English-speaking children. Cromer (1968) did not find any reference to hypothetical events, even inappropriately expressed, in the data of the Harvard children until the age of 4;6. Kuczaj and Daly (1979), who used eliciting techniques in naturalistic and experimental situations, obtained a number of hypothetical statements from younger children. They found that such early uses are more often implicit than explicit and other-initiated than self-initiated. They refer to single hypothetical events rather than to a sequence of such events, and reference to future hypothetical events is prior to that to past ones.

Gvozdev (1949) and Slobin (1966) have pointed out that relative to the emergence of imperative and indicative moods, the conditional mood develops somewhat late, e.g. Zhenya was observed to produce conditional clauses with *esli* 'if' at 2;9. While this may be relatively late for Russian, it is relatively early when compared to English. The onset of conditional forms in Russian occurs almost 2 years earlier than in the English-speaking Harvard children, and it is preceded by the emergence of non-factive subordinate clauses introduced by *štob(y)* which closely correspond to the Polish *żeby*-clauses.

In my data, *żeby*-clauses are found at about 2;0 (with some children as early as 1;9 or even 1;7).[28] Causal clauses providing a hypothetical reason appear at the same time, e.g. Jaś (2;1):

Nie	*rzuca-m*	*piórk-a*	*do*	*wody*	*bo*
Not	throw-1SG	feather-NEUT:GEN	to	water-FEM:GEN	because

mokr-e	*by-∅*	*był-o*
wet-NEUT	COND-3SG	be:PP-NEUT

'I don't throw a feather into the water because it would be wet'. Note that the future tense form (*bo będzie mokre*) would have worked as well, but Jaś did not avoid the conditional mood form in spite of the existing option. Later on, the first 'if'-clauses are used in indicative mood, and somewhat later hypothetical conditional clauses appear. They are not as frequent as at the age of 5; nevertheless, several examples can be found in the spontaneous speech of all children before the age of 3. The following examples, provided with detailed glosses, can serve not only as evidence for hypothetical conditionals but also as illustration of some phenomena which appear typically from 2 to 3:

Agnieszka (2;0)

Jak	*ty*	*by-ś*	*chciał-a,*	*to*	*by-m*
If	you	COND-2SG	want:PP-FEM	PARTICLE	COND-1SG

ci	*dał-a*
you:DAT	give:PP-FEM

'If you wanted (it), I would give (it) to you.'

Kasia (2;6)

Ja	*ma-m*	*dw-a*	*kieszonk-i.*	*A*	*jak*	*by-∅*
I	have-1SG	two-MASC	pocket-NVIR:FEM:PL.	And	if	COND-3SG

był-a	*jedn-a*	*to*	*by-∅*	*brakował-o.*
be:PP-FEM	one-FEM	PARTICLE	COND-3SG	be:missing:PP-NEUT

'I have two pockets. And if there was one, (something) would be missing.'

(The neuter *-o* in *brakował-o* expresses the impersonal 'something would be missing'.) Note the erroneous *dw-a* instead of *dwi-e*.

The following two examples from Kasia 2;9 involve double hypothetical implications of a hypothetical condition:

Jak	*by-m*	*wylazł-a*	*na*	*płot-∅*	*to*	*jeszcze*
If	COND-1SG	climb:PP-FEM	on	fence-ACC	PARTICLE	even

[28]With "telegraphic" children, conditional mood clauses can be deprived of their specific markers, i.e. *by* and conjunctions, the only cue to the non-factive or hypothetical reference being the inappropriate use of past tense forms (see Section 4.1).

by-ø	*mnie*	*bab-a*	*skrzyczał-a*	*. . . Może*
COND-3SG	me:ACC	old:hag-FEM	scold:PP-FEM	Perhaps

by-ø	*mnie*	*porwał-a?*
COND-3SG	me:ACC	kidnap:PP-FEM

'If I climbed the fence, the old hag would even scold me . . . Perhaps she would kidnap me?'

Jak	*by-m*	*poszł-a*	*bez*	*misi-a*
If	COND-1SG	go:PP-FEM	without	teddy:bear-MASC:GEN

to	*miś-ø*	*by-ø*	*płakał-ø.*	*I*
PARTICLE	teddy:bear-MASC:NOM	COND-3SG	cry:PP-MASC.	And

wołał-ø-by-ø	*Kasi-u!*
call:PP-MASC-COND-3SG	Kasia-VOC

'If I went without my teddy-bear, the teddy-bear would cry. And he would call: Kasia!'

The following four examples illustrate not only the hypothetical conditionals but also typical difficulties with the person suffix placement, as described in Section 4.6.3. These difficulties appear with respect to the first and second person only, but in view of the special rule children use, the third person forms have to be glossed differently, as compared with the examples cited above, and with adult use.

Kasia (2;7)

Jak	*by*	*ukroił-a-m*	*to*	*by*	*się*
If	COND	cut:PP-FEM-1SG	PARTICLE	COND	REFL

skaleczył-a-m.	*Krew-ø*	*by*	*mi*	*leciał-a-ø.*
hurt:PP-FEM-1SG	Blood-FEM:NOM	COND	me:DAT	fall:PP-FEM-3SG

'If I cut (it), I would hurt myself. I would bleed.' Literally: 'Blood will fall to me'—correct in Polish! Cf. adult 3SG form:

by-ø	*leciał-a*
COND-3SG	fall:PP-FEM

Note the presence of two implications.

Miś (2;10) [After his brother told him he would not let their mother enter the school, he said]:

Jak	*by*	*ja*	*chodził-ø-(e)m*	*to*	*by*	*mamusi-ę*
If	COND	I	go:PP-MASC-1SG	PARTICLE	COND	mommy-ACC

wpuścił-ø-(e)m.
let:in:PP-MASC-1SG

'If I were going (to school), I would let mommy in.'

Miś (3;0)

Mamusi-a	*by*	*płakał-a-ø*	*jak*	*by*	*ja*
Mommy-FEM:NOM	COND	cry:PP-FEM-3SG	if	COND	I

był-ø-(e)m	*w*	*spółdzieln-i.*	*I*	*ja*	*by*	*płakał-ø-(e)m*
be:PP-MASC-1SG	in	shop-LOC	And	I	COND	cry:PP-MASC-1SG

sam-ø	*w*	*spółdzieln-i.*
alone-MASC	in	shop-LOC

'Mommy would cry if I were in the shop. And I would cry in the shop alone.'

Jaś (2;10)

Jak	*by*	*Jaś-ø*	*powalał-ø-ø*	*się*
If	COND	Jaś-MASC:NOM	smear:PP-MASC-3SG	REFL

klej-em	*to*	*by*	*był-ø-(e)m*	*klej-ø*	*a*
glue-INSTR	PARTICLE	COND	be:PP-MASC-1SG	glue-NOM	and

nie	*Jaś-ø.*
not	Jaś-NOM

'If Jaś smeared himself with glue, I would be glue and not Jaś.'

Note the coexistence of two perspectives in self-reference. Jaś uses here both first and third person while speaking about himself. This phenomenon, typical of the third year of life, is also illustrated in the next sentence, where the 1SG possessive pronoun 'my' is used, although the verb occurs in 3SG.

Jaś (2;10)

Jak	*by*	*Hani-a*	*stoił-a*	*na*	*wózk-u,*	*to*
If	COND	Hania-FEM	stand:PP-FEM-3SG	on	pram-LOC	PARTICLE

by	*Jaś*	*musiał-ø-ø*	*kupi-ć*	*wózek-ø*	*za*
COND	Jaś:MASC:NOM	must:PP-MASC-3SG	buy-INF	pram-ACC	with

moj-e	*pieniądz-e.*
my-PL	money-PL

'If Hania stood on the pram, Jaś would have to buy a (new) pram with my money'. Note the incorrect stem in *stoi-ł-a* (= *sta-ł-a*). In the above example, as well as in the following one, we cannot credit Jaś with the adult glossing of the 3SG conditional forms. If I insist on that, it is mostly in order to stress that the apparently correct surface structure must not necessarily reflect a correct underlying rule.

Jaś (2;10) [After having been scolded for locking a neighbor in the bathroom, he explains that no harm was done.]

Jak	*by*	*pan-i*	*zamykał-a-ø*	*się*	*sam-a,*
If	COND	lady-FEM (= she)	lock:PP-FEM-3SG	REFL	self-FEM

to	*by*	*się*	*też*	*boił-a-ø.*
PARTICLE	COND	REFL	also	frighten:PP-FEM-3SG

'If she locked her up herself, she would also be frightened.' Note the incorrect stem in *boi-ł-a* (= *ba-ł-a*)

A few more observations on conditionals are relevant here. As seen from the above examples, the children refer not only to sequences of hypothetical events (condition-implication), but often two hypothetical conditions or implications are mentioned. Sometimes the logical order is reversed, e.g. Jaś (2;10) said, *Jak by brałem zastrzyki, to by byłem chory i miałem katar* 'If I took injections, I would be ill and would have a cold'. One of the children studied, Michał, began asking hypothetical questions at 2;1, e.g. *Jak by kto Michałowi urwał rączki, to co?* 'If somebody tore off Michał's hands, then what?', and then he frequently carried out "experiments," presenting two alternate versions of events, e.g. [putting his hand close to a candle] Michał (2:2): *A jak bym się sparzyła?* 'And if I burned myself?' Mother: *To by było źle* 'It would be bad'. Michał : *A jak by nie?* 'And if not?'. Similarly at the age of 2;3: *A jak by nie miałem głowy?* 'And if I had no head?' Sister: *To by cię nie było* 'Then you wouldn't exist'. Michał: *A jak bym była z głową?* 'And if I were with a head?' Sister: *To byś był. To jesteś* 'Then you would exist. You exist'. Michał: *A jak bym nie była z głową?* 'And if I were not with a head?' Finally, at the age of 3;1 the following complex reasoning was recorded: Michał: *Co by było, gdyby Pana Boga nie było?* 'What would happen, if there was no God?' Mother: *To by i nas nie było* 'Then we wouldn't exist either'. Michał: *A jak by Pana Boga nie było, a śmy byli?* 'And if God didn't exist and we did?'

To summarize, the only overlap with Kuczaj and Daly's results is that reference to future hypothetical events appears before that to past hypothetical events. In all other respects, the development of Polish children is decidedly precocious when compared with their English speaking peers.

There are three factors that can account for this finding. First of all, the conditional particle *by* is a salient and a unique marker for nonfactive events (hypothetical events included). Secondly, the first distinction to be made is that between factive versus nonfactive reference, and the conditional mood is introduced first in *żeby*-clauses, which have an explicit structure. In contrast, the above distinction is not marked at all in English, and the counterparts of Polish *żeby*-clauses are opaque infinitival constructions. Thirdly, English conditional clauses are expressed by means of the purely conventional use of the past-tense form in the subordinate clause and a *would* + VERB construction in the main clause. The parallel distinction in Polish is realized in terms of transparent constructions in which every single occurrence of nonfactivity is clearly and consistently marked by conditional mood.

6.2. *Acquisition of Complex Sentences*

In general, the acquisition of complex sentences matches the universal pattern described by Clancy, Jacobsen, and Silva (1976), as well as that for English presented in Limber (1973) and Bowerman (1979). At some points, however, it seems to be precocious. In this section I try to present the data on complex sentences in a more or less systematic way. Complex structures which appear before the age of 2 involve coordination, antithesis, sequence, infinitival embedded clauses, and causal adverbial clauses. While conjoined structures seem to develop in a manner which is similar to other languages (cf. Clancy et al.), the two latter ones deserve special attention.

With children who formulate their requests as "desires" rather than as "orders" (Smoczyńska, 1980), the earliest embedding verb is *chce* 'want', e.g. Tenia (1;6): *Jabłko chce jeść* 'apple want to:eat', Kasia (1;7): *Iść na dół chce Kasia* 'to:go on down wants Kasia', Kasia (1;9): *Kasia chce budzić babcię* 'Kasia wants to:wake:up Granny'. These sentences seem more complex than those reported for English at the same age.[29] Before the age of 2, sentences involving a non-coreferential subject of the embedded verb are not used or used incorrectly, e.g. Kasia (1;9): *Kasia nie chce kaszlesz* 'Kasia not wants you:cough', in which the second-singular present-tense form is used instead of a *żeby*-clause (cf. correct *Kasia nie chce, żeby-ś kaszlał-a* 'Kasia not wants that-2SG cough:PP-FEM' (= 'Kasia doesn't want you to cough')).

Another type of early embedding involves the Polish "modals" (or better "pseudo-modals"), both personal and impersonal; e.g. Jaś (1;10): *Można łyżeczką pić herbatkę?* 'One:can with:spoon to:drink tea?'. These were extremely frequent with Kasia, who freely employed a number of constructions with "psuedo-modals" before the age of 2,[30] e.g. Kasia (1;9): *Trzeba przykryć mamę naszą . . . poduszką* 'one:should to:cover mommy our . . . with:pillow', or the following sequence recorded at 1;9 (note the variability of word order): *Musi Kasia jeść obiadek. Musi obiadek jeść. Myć naczynie Kasia musi. Musi Kasia naczynie myć. Garnuszek musi Kasia myć.* 'Must Kasia to:eat lunch. Must lunch to:eat. To:wash:up dishes Kasia must. Must Kasia to:wash:up dishes. Cup must Kasia to:wash:up.' These constructions also seem to appear a little earlier than in English (cf. Limber, 1973).

The earliest adverbial clauses are those providing "reasons" for requests. In "telegraphic" children these are realized by means of mere juxtaposition, e.g. Basia (1;9): *Babciu, zdjąć to, ba to, tu dziura* 'Granny, take it off, ugly this, here hole' [Basia wants Granny to take off her apron because it is dirty and has a hole in it.] In other children the conjunction *bo* 'because' appears, e.g. Kasia (1;8): *Umyć rączkę, bo brudna* 'to:wash hand, because dirty' (This utterance is quite

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[29]As in English, these are preceded by simpler forms such as 'want apple' or 'want eat'.

[30]It should be noted, however, that Kasia, who began combining words at 1;3, manifested precocious development.

TABLE 6.8
The Proportions of Various Kinds of Subordinate Clauses Within Complex Declarative Sentences Recorded for Jaś (Based on Przetacznikowa, 1968)

	Age			
Type of Clause	*2–3*	*3–4*	*4–5*	*5–6*
Complement clauses				
object	21%	9%	12%	14%
Adverbial clauses				
cause	21%	36%	37%	33%
purpose	10%	8%	4%	2%
condition/time	25%	26%	26%	29%
Relative clauses	12%	17%	14%	14%
Other	1%	4%	7%	8%
Number of sentences	165	290	203	280

correct in adult Polish!). It is only later that *bo*-clauses become attached to declarative statements. A *bo*-clause usually follows the main clause. Thus the order of events mentioned is reversed. *Więc* 'so'-clauses which reflect temporal sequence of events are marginal in both child and adult speech.

As for later developments, I shall concentrate on subordinate clauses. Table 6.8 shows the quantitative development of subordinate clauses in declaratives over the period from 2 to 6 years. The figures would be somewhat different if all kinds of utterances were taken into account. Some types of clauses are especially frequent with requests, e.g. cause and purpose adverbials, or with questions, e.g. conditional questions of the kind 'Why if so-and-so, then so-and-so?'. The development of particular kinds of subordinate clauses will be discussed below.

6.2.1. *Complement Clauses.* Object complement clauses emerge at about 2 years. The complement-taking verbs used correspond to those listed in Limber (1973). The most frequent are verba dicendi and sentiendi. With "telegraphic" children, sentences have an English-like structure (see Section 4.1), but most children use a whole range of appropriate connectives, e.g. factive *że* 'that', nonfactive *żeby* 'that', *jak* 'as', etc., as well as a number of wh-words in indirect questions.[31] Errors in the choice of factive versus nonfactive complementizers are extremely rare although examples can be found, e.g. Kasia (2;9): *Obiecuję,*

[31]Embedded questions are formally identical to direct questions since neither kind involves inversion.

żeby Michał był grzeczny w szkole 'I:promise so:that Michał would:be good at:school'. This error was obviously caused by the lack of understanding of the verb 'promise'.

As far as the 'ask/tell' problem is concerned, Polish displays certain peculiarities. The meaning of the English *ask* is realized by two distinct verbs, i.e. *zapytać* 'ask:a:question' and *prosić* 'ask:a:favor'. However, another ambiguity arises with *tell* since Polish has no *tell/say* distinction and only the verb *powiedzieć* is used followed by *żeby*-clauses in the sense of 'order' and factive *że* or wh-clauses for 'tell/say'. Although children do not mix the two meanings and use appropriate complementizers, it is often the case that they use *powiedzieć* 'tell/say' instead of *zapytać* 'ask:a:question', e.g. Basia (4;0): *Ale powiem mamie jak trzeba ciąć* 'but I:shall:tell to:Mommy how one:should cut', when *zapytam* 'I:shall:ask' was intended. It could be explained by the semantic relationships between the two verbs: 'asking' constitutes a subclass within a broader class of 'telling'/'saying', and the child can simply use the more general term in the matrix clause without specifying that what he says is a question.

Subject complement clauses emerge later. They occur with some special constructions, e.g. *zdaje mi się, że* 'seems to:me that', *śniło mi się, że* 'dreamed to:me that' (= 'I dreamed'), *prawda, że* 'true that', and they are very infrequent.

6.2.2. *Adverbial Clauses.* Clancy et al. (1976, p. 74) stated that, "Even in adult language the three concepts of cause, time, and condition are closely related and overlap to some extent." One could argue that these concepts are in fact aspects of a broader category which could be called something like "relationships holding between events" and that the partitioning of the particular meanings among these "concepts" differs from one language to another. Moreover, in the case of Polish, another "concept" is clearly marked, namely that of purpose, as expressed by means of *żeby*-clauses.

Indeed, the means of expressing "relationships between events" are not limited to subordinate adverbial clauses. For instance, what Italian children express by conditional clauses with *senno* 'if not' is translated into English by means of coordinate clauses with *or* (Clancy et al., 1976, p. 78). In Polish the same meaning will be rendered by a *żeby*-clause with the verb negated indicating "a purpose to avoid," for instance, *Nie ruszaj tego, żebyś się nie sparzył* 'Don't touch it, so that you wouldn't burn yourself,' or by a causal *bo*-clause with the verb in future tense, for example, *Nie ruszaj tego, bo się sparzysz* 'Don't touch it because you will burn yourself', with the implicit 'If you do it'; in English one would say *Don't touch it or you will burn yourself.* Similarly, many of Polish *żeby*-clauses will be rendered in English or Italian by means of a causative construction. Each language therefore makes a different categorization of possible relationships, and the same event can be shaped differently by speakers of different languages. It would be interesting to investigate how these linguistic differences affect cognitive development.

6.2.2.1. *Cause.* Causal adverbial clauses emerge in Polish children before the age of 2, and they constitute the most frequent category of subordinate clauses throughout the whole period under study (see Table 6.9). Their functions, however, undergo certain significant changes. Geppertowa (1968), who analyzed the meanings of the conjunction *bo* 'because' as used by several children, distinguished between the following usages: (1) motivational "reasons" (both objective and less frequently, subjective) used to justify actions and requests; (2) statements of objective causality; and (3) beginnings of logical reasoning. Table 6.9 presents the change of meaning of causal adverbial clauses in Jaś, as analyzed in Przetacznikowa (1968). It can be seen that motivational reasons dominate until 4 at which time statements of objective causality begin to prevail. The logical reasoning category can be found at about the age of 3 and becomes more frequent with age.

In the data there are two examples which indicate that there can be nothing causal about *bo*-clauses used as "reasons" for requests, their only function being that of strengthening the request itself, e.g. talking to her mother who was laughing at her, Kasia (2;1) said: *Nie śmiej się mamusiu, bo . . . jest ślisko. Nie wolno się śmiać* 'Don't laugh, mommy, because . . . it's icy. One:is:not:allowed to:laugh' and this example from Miś (2;9): *Ubierz mnie, bo szyby się stłuką.* (Mother: *Dlaczego?*) *Bo szyby się stłuką, jakby mnie się potem ubierało.* 'Dress me, because window will:break' ('Why?') 'Because window will:break, if one dressed me later'. Both were uttered when the child was so angry that he could not look for a more appropriate "reason," and just picked up the first one *bo*-clause he could think of.

6.2.2.2. *Purpose.* Clauses of purpose are reasonably frequent in early stages (see Table 6.8). They are also used to express "reasons," e.g. Michał (2;9): *Ja pluję na indyki, żeby się obraziły* 'I spit on turkeys so:that they:get:of-

TABLE 6.9
Meanings of Causal Adverbial Clauses in Declarative Utterances of Jaś (Based on Przetacznikowa, 1968)

	Age			
Categories	*2–3*	*3–4*	*4–5*	*5–6*
motivational reasons	73%	59%	33%	39%
objective causality	25%	26%	42%	39%
logical reasoning	2%	15%	25%	22%
Number of sentences	52	104	76	93

fended'. In fact, both kinds of meanings overlap, which frequently makes the children use a sequence of conjunctions, e.g. Michał (2;3): *Mamo, zapal lampę, BO ŻEBY widziałem, bo jest ciemno* 'Mommy, put the light on, BECAUSE SO:THAT I:see, because it's dark'. Sometimes the purpose clause is quite superflous, e.g. Jaś (3;2): *Chcę tu przyjść, żeby tu byłem* 'I:want to:come here so:that I:am here'. A detailed analysis of various meanings of *żeby* as used by children is given in Geppertowa (1956).

6.2.2.3. *Time/Condition.* Except for hypothetical conditional sentences which are clearly marked as such (see Section 6.1.3), it is impossible to distinguish between temporal and conditional clauses since both are introduced by the conjunction *jak* 'as'. The question should be asked whether this reflects the parental tendencies to use only *jak* when talking to their children, since normally the spoken language provides the option for distinguishing between the two meanings, i.e. *kiedy* 'when/while' and *jeśli* 'if'. If the hypothesis were not confirmed, it would be somewhat surprising if children did not prefer the clear marking of temporal sentences with the connective *kiedy* instead of plurifunctional *jak.* This expectation is supported by the fact that *kiedy* is also a question word for time while *jak* is a question word for manner ('how') as well as a comparative term 'like, as', a complementizer 'as', etc.

Clauses introduced by *jak* emerge early. They usually occur in sentence initial position with the main clause introduced by the semantically empty particle *to.* In Polish, the distinction 'when/while' is not marked in the conjunction. It is expressed through the aspectual marking of verbs in both clauses. The imperfective aspect of the subordinate clause points to simultaneity of events. The perfective verb form indicates that the event referred to in the subordinate clause occurred first. In the sentence *Spotkałem Zosię jak kupowałem chleb* 'I:met:PFV Zosia while I:was:buying:IPFV bread' the past tense *kupowałem* of the imperfective verb *kupować* is used and the word *jak* means 'while'. However, in the sentence *Spotkałem Zosię jak kupiłem chleb* 'I met Zosia when I:bought:PFV bread' the word *jak* is now interpreted as 'when' or 'after' because of the perfective verb *kupić* which appears in the past form *kupiłem.* The perfective aspect of the adverbial clause points to the fact that the action of buying bread occurred first, and the meeting with Zosia, second. It is not marked in the sentence whether the meeting took place at the very moment when the buying was completed ('when') or some time later ('after'). If the clauses are reversed, with the *jak*-clause coming first, the order of mention matches the temporal order of events, and in fact this order prevails in children's data. Temporal sentences with the main clause coming first are usually those referring to simultaneous events (where the order of mention is irrelevant). Further research would be needed to establish which of the two meanings ('when' vs. 'while') appears earlier, nonsimultaneous temporal sentences are more frequent but a large part of them could be better described as conditional clauses.

As for other temporal clauses, the meaning of 'after' is usually rendered by aspectual marking in the *jak*-clause and no special construction is needed. There is, however, a nominalized form of the 'after'-clause involving *po* 'after' plus a verbal noun in locative case. Such constructions are not recorded in the data, except for two examples in Michał (4;1) [asking his mother to give him her pen] Mother: *Nie mogę, bo piszę* 'I:cannot because I:am:writing' Michał: *Na chwilkę albo po pisaniu* 'For a moment or after writing' Mother: *Ale ja teraz piszę* 'But I am writing now' Michał: *To po napisaniu* 'Then after having:written'; and Michał (5;1): *Żołnierz po zwyciężeniu idzie* 'Soldier after having:won goes'. An incorrect use was recorded in Wawrzont at (3;7): *Ja nie chcę za jajkiem odpoczywać* 'I not want after egg to:rest' (= 'I don't want to have a rest after I eat my egg') in which the wrong preposition is used, i.e. the spatial *za* 'after' or 'behind' instead of the temporal *po* 'after'. The gerundial form *napisawszy* 'after:having:written' was not attested in the data. Most probably it is hardly used in spoken language. It occurs, however, in "short stories" written by a 9-year-old.

The meaning of 'before' cannot be rendered by *jak*-clauses, and the special conjunction *zanim* is required which introduces a regular clause with a finite verb. However, I did not find examples of this structure in any of the data studied. The only example is that of an inappropriate use, recorded from Wawrzont at (3;8): *Kto mi wytrze tyłek, zanim ja zrobię kupkę?* 'Who will wipe off my bottom before I pass my B.M.?', where the natural order of events referred to shows that he meant 'after' and not 'before'. This example provides negative evidence, yet the fact that the child tried to use *zanim* can be a signal that he has noticed the structure and will soon learn it.

The notion of simultaneity involves two kinds of transformed structures which are infrequently found in the data. One of them is *przy* 'at' plus verbal noun in the locative case found in Michał as early as (2;6): *Dlaczego przy leżeniu na brzuszku nie chlupnie krwi?* 'Why at lying on belly blood won't spurt (from the nose)?' and in Wawrzont at (3;8): [sitting in his bed and reading books] *Dobrze się czuję przy spaniu* 'I feel well at sleeping'. Another construction involves the present gerund, and it is reported in Rzętkowska's daughter before the age of (4;0): *Wracając do domu spotkałyśmy Czesię* 'While:going:back home we:met Czesia'; in Witek (3;7): *Boś ty nie widziała rozmawiając z ciotką wtedy* 'Because you didn't see (it) while:talking to Auntie then', and also in Wawrzont at (3;11): [Mother had promised him that she would go to sleep at the time when he is going to sleep, but she continues to read a book] Wawrzont: *Śpisz?* 'You:sleep?' Mother: *Ja tak śpię czytając* 'I am:sleeping while reading?' Wawrzont: *Ty tak śpisz czytając?* 'You are:sleeping while:reading' Mother: *Tak* 'Yes' Wawrzont: *To ja będę nie czytając spał, tylko zamknę oczka* 'So I will not while:reading sleep, but I:shall:close eyes'. It seems that the meaning of simultaneity is more available to Polish children than that of 'before' (constructions with 'after' are not necessary since *jak* works equally well).

6.2.3. *Relative Clauses*

6.2.3.1. *Production.* In all the children studied the first relatives appear about 2;0, following an adult question 'Which one?' or 'Which kind of?', asked in order to obtain additional information about one of the referents previously mentioned by the child. Children usually answer by using an isolated relative clause, or they precede it with the demonstrative antecedent 'this (one)', e.g. Kasia (2;0): *Daj mi chustkę* 'Give me handkerchief' Mother: *Jaką?* 'Which (one)?', Kasia: *CO LEŻY* 'THAT IS:LYING', and Michał (2;2): *Daj mi tu laski moje* 'Give me my walking-sticks' Mother: *Jakie laski?* 'Which walking-sticks?' Michał: *TE CO SA W MOIM KACIKU* 'Those THAT ARE IN MY ROOM'.

At the same time children learn to construct full complex sentences and to use them when they suppose that some additional information is needed to establish unique reference, e.g. Michał (2;3): *A gdzie te naczyńka CO JE WYJMOWAŁEM?* 'And where are those dishes THAT THEM I:WAS:TAKING:OUT?' and Kasia (2;5): [comments on a picture] *O, goły chłopczyk. A te CO SIE BAWIA to nie są gołe.* 'Oh, a naked boy. And those THAT ARE:PLAYING are not naked', also Kasia (2;6): [to her parents who came back home after an absence] *Zdechła jedna rybka. A te CO NIE ZDECHŁY to pływają.* 'Died one fish. And those THAT NOT DIED are:swimming'. As can be seen from the above examples, contrary to Limber's (1973) observation concerning English-speaking children, Polish children produce subject-embedded relatives early on. Note the use of the empty particle *to* at the beginning of the second part of the main clause.

Children frequently use relatives also to explain what they mean if they do not know the name of an object, e.g. Jaś (4;0); [explains what he wants to play with] *Taki z długą rączką CO MA DZIURKE, taki chcę CO WCZORAJ* 'Such with a long handle THAT HAS A HOLE, such I:want THAT YESTERDAY'. Note that such an incomplete elliptical relative as 'THAT YESTERDAY' instead of 'THAT I HAD YESTERDAY' could be also used in adult Polish. (To satisfy the reader's curiosity, I will say that the object referred to was a strainer.)

All the examples quoted above refer to some knowledge that the listener is supposed to have. If a relative carries some new information about a referent, it is embedded in a kind of "introductory" matrix clause, e.g. Kasia (3;0): *A ja jestem byk potworny CO ZJADA DZIECI, a mamusia byczek mały CO NIE ZJADA DZIECI* 'And I am bull terrible THAT EATS CHILDREN, and Mommy bull little THAT NOT EATS CHILDREN', Jaś (2;10): *Ja mam szoferkę CO MA OKNO* 'I have cab THAT HAS WINDOW', Kasia (2;10): *Ja widziałam takiego psa CO GRYZIE i mnie nie ugryzł i patrzył* 'I saw such dog THAT BITES and (he) me not bit and looked', and Michał (2;2): *Był sobie taki Jacuś CO SIE BAWIŁ CÓRKA* 'Once there was such Jacuś THAT PLAYED WITH:DAUGHTER'. Moreover, although less frequently, relatives of place appear early, simultaneously with the attributive type exemplified so far; e.g. the following complex construction, involving a hierarchical combination of both types, Michał (2;6): *Czy Janek jest w kuchni GDZIE JEST STARY*

ZEGAR CO ROBI TIK-TAK? 'Is Janek in kitchen WHERE IS OLD CLOCK THAT SAYS TICK-TOCK?'

Most children employ almost exclusively the relative pronoun *co* which is indeclinable, and it requires a shadow pronoun or an antecedent copy to make explicit case relationships, although in unambiguous contexts they can be omitted. The relative pronoun *który* which requires case marking and a gender/number agreement with its antecedent occurs only sporadically. These requirements seem to cause special difficulties in constructing prepositional phrases such as 'in which', 'on which', etc., e.g. Michał (2;1): *Jaki wspaniały koń! Ja go kiedyś narysowałem KTÓRY SIE NA NIM JEŹDZI* 'What a splendid horse! I him once drew WHICH RIDES ON HIM'. Note the lack of a case marker on *KTÓRY* and the shadow pronoun *NA NIM*, cf. correct *NA KTÓRYM SIE JEŹDZI* 'on which one rides'. At 3;2, while looking for the car that he has lost, Jaś said *Ono było na szafie malutkiej KTÓREJ MAM RZECZY NA TEJ* 'It was on cupboard little WHICH I HAVE THINGS ON THAT'. In Jaś's statement there is a correct case ending and gender/number agreement (*KTÓREJ*), but the child could not front the preposition and introduced a shadow pronoun instead, cf. correct *NA KTÒREJ MAM RZECZY* 'on which I have things'. It seems that English forms involving "stranding" of prepositions would be easier to produce.

Among the children studied it is only Michał who mastered the correct use of *który* and employed it frequently in later stages (also with prepositions); other children avoided it throughout the whole period studied, e.g. Jaś (4;3): [telling his mother what he has seen] *Mamusiu, widziałaś ten autobus CO W TYM AUTOBUSIE NIE BYŁO KIEROWCA* i ten autobus CO W TYM AUTOBUSIE NIE *BYŁO KIEROWCA ciągnął drugi autobus?* Mother: *Pewnie jeden się zepsuł.* Jaś: *Nie zepsuł się tylko nie było w tym autobusie kierowca CO CIAGNAŁ DRUGI AUTOBUS.* Jaś: 'Mommy, you:saw that bus THAT IN THAT BUS THERE WAS NO DRIVER and that bus THAT IN THAT BUS THERE WAS NO DRIVER was:pulling another bus?' Mother: 'Probably one broke down'. Jaś: 'It not broke down, only there was in that bus no driver THAT WAS:PULLING ANOTHER BUS.' Note the numerous repetitions of the whole antecedent.

The data recorded in writing do not provide adequate cues for the restrictive versus nonrestrictive distinction, which in Polish is clearly marked by different intonation contours. However, in view of the contexts in which the recorded relatives occur, it is highly improbable that any of them could be classified as a definitely nonrestrictive.

6.2.3.2. *Comprehension.* The large corpus of relatives recorded from the Kraków children needs a thorough analysis before the developmental tendencies can be systematized. General properties of children's production of relatives as described above can shed some light upon numerous comprehension studies which result in conflicting observations (see Bowerman, 1979). In the case of Polish, it can be expected that *który*-relatives although difficult to produce, do not involve difficulties in parsing, because of the large amount of explicit cues they provide. The only experimental study concerning Polish relatives is that of Zabielski (1974), who tested comprehension of different kinds of sentences with 3-, 4-, 5-, and 6-year-olds (20 subjects in each age group). For relatives he used the five following items:

1. *Kazik głaszcze psa, który je kiełbasę.*
   'Kazik is stroking a dog that eats sausage'
2. *Tata rozmawia z Jackiem, który trzyma piłkę.*
   'Daddy is talking to Jacek, who is holding a ball'
3. *Jaś goni kota, który uciekł na drzewo.*
   'Jaś is running after a cat which had climbed a tree'
4. *Mama podaje jabłka, które przyniosła na talerzu.*
   'Mommy is serving apples that she had brought on the plate'
5. *Kasia spotkała Jacka, którego boli głowa.*
   'Kasia met Jacek whose head is aching'

For each item three pictures were presented, and the children had to choose the one which corresponded to the sentence uttered by the experimenter. Unfortunately, there is no exact information on the pictures used, except for one example (item 4), where the two "wrong" pictures were those of a boy serving some apples on a plate to a woman and a boy holding an empty plate, being given some apples by a woman (with no plate). The ratios of the correct choice for all the five items were: 65% with 3-year-olds, 60% at 4, 78% at 5, and 90% at 6. These global results indicate that the level of comprehension as measured by Zabielski was relatively high with children aged 3–4, and then gradually increased to reach 90% criterion at 6.

In view of these results, and expecting that Polish *który*-clauses would be easy to understand, I arranged an experiment investigating my son at age 3;10, who freely produced *co*-relatives whenever required by the context. Although only one child was tested, and in a quite informal way, the result obtained is surprising enough to be reported. When presented with four classical types of reversible *który*-relatives (SS, SO, OS, and OO, e.g. 'The cow that kissed the horse kicked the rabbit', etc.) and asked to repeat each of them, he did not make any errors.[32] However, when asked to act-out the same sentences, in most cases[33] he was unable to do so, although additional information was supplied by gender marking in past tense verbs. In his wrong answers he used all kinds of "strategies," described in the literature and summarized by Bowerman (1979). What I found

[32]On the other hand, he was quite unable to repeat utterances in which *który* was preceded by a preposition.

[33]Some positive answers were obtained with SS sentences, but they were not consistent enough.

most puzzling, however, were not his scored answers but the nonscored behavior which accompanied the performance. If he used the strategy of main-clause-only, he acted it out quickly and, quite satisfied, looked at me asking for approval. In all the remaining cases, his behavior showed total confusion and apparent inability to retain the whole information given in the sentence. He asked me to repeat the sentence several times or asked 'Who kissed?', 'Who kicked?', etc. after he had performed one of the actions, and still he was unable to solve the task correctly. Clearly, what he found difficult was not sentence processing but rather information processing.

An experimental situation is of course artificial in some way, and significant discrepancies can occur between correct performance in natural contexts and correct solving of experimental tasks. In natural conversation, relatives are understood (and produced) when they are necessary to transmit a message. It can be of no significance to the child whether it is the cow who did the kissing or the rhinoceros. A more relevant fact, however, is that the acting-out task is not congruent with the very function of relative clauses, which usually serve to downgrade one clause with respect to another. When both clauses are equally important, and both provide new information, they are coordinated. The relative transformation reduces one clause to the function of an attribute, which either refers to some prior knowledge or points at some observable features of the referent. In both cases it serves to help the listener in identifying the referent uniquely. Thus the matrix clause usually contains new information (to be remembered or acted out), whereas the relative clause contains the information to be retrieved from memory (old information) or perceptually checked. Even if it is new information, as in the latter case, it is not intended as a message to be remembered, it is totally instrumental with respect to identifying the referent of its antecedent. Now, the experimental task of acting out BOTH actions is comparable with testing the comprehension of *The black cow is swimming* in which the child would be scored for painting the cow black. If the child does not pay equal attention to both clauses, it is precisely because he knows the function of relatives. The strategy of acting-out the main clause only is the most intelligent answer to an inappropriate task requirement.

I carried out another "experiment" in which Wawrzont (3;10) had to choose by means of a relative clause the correct toy out of 10 toys presented to him. The relative clause referred to an action which had been performed by one of the toy-animals before the presentation of the sentence, e.g. 'The animal which has fallen down kissed the elephant' and, subsequently, 'The cow kicked the animal that kissed the elephant' or even 'The animal that the elephant kicked kissed the animal that jumped over the lion'. The child made some errors, but in general his responses were correct and what is most important, there were no signals of confusion while processing these sentences.

All these observations point to the fact that the acting-out tasks do not check comprehension of relatives but much more beyond that. In view of the existence of copious naturalistic data in Polish, and also because of the relatively easy structure of the relatives, it would be profitable to carry out regular experiments with Polish children in which not only the form of relative clauses but also their function were taken into account.

6.3. *Delayed Acquisition*

Two kinds of phenomena can be discussed here. One is the "late mastery" of forms which emerged relatively early, which is revealed in "late errors." Another phenomenon is that of late emergence of a category which is present in the child's input. Typical late errors involve difficulties with all kinds of irregular forms, the choice of verb stem being the most frequent error of this type (see Section 4.5.1). Among regular forms, most difficult categories—frequently not yet fully mastered by the age of 3 or 4 or beyond—are the following: (1) the genitive plural of nouns (Section 4.3.2.2), (2) the order of morphemes in conditional forms (Section 4.6.3), (3) the first person plural of the past tense (Section 4.4.4), and (4) the distribution of *dwa/dwie* 'two' (Section 4.5.2). It is perhaps worth noting that the very same forms appear as innovations in various Polish country dialects (cf. Bartnicka-Dąbkowska, 1965). As far as late emergence is concerned, apart from some kinds of temporal clauses, which have been discussed in Section 6.2.2.3, several categories will be discussed below.

6.3.1. *Virile vs. Nonvirile Gender Distinction (in Plural).* The distinction of virile/nonvirile gender is relevant for the following linguistic forms: (1) nominative plural (where virile nouns have a specific and highly irregular distribution of endings), (2) accusative plural (with accusative identical to nominative for nonvirile nouns, and accusative identical to genitive for virile), (3) gender agreement in adjectives, pronouns and past tense verbs (see Table 6.6), and (4) forms of numerals.

I have not yet wholly analyzed the data concerning this distinction. All that can be said at this point is that virile nouns and the problems involved in their use do not occur in the child's speech from the very beginning. Note that potential referents for virile gender (men in plural) are rather limited in number, as opposed to all other elements of reality which have nonvirile gender. Moreover, the use of specific virile nouns requires broader social knowledge (in early stages only the plural of the semantically "neutral" *pan* 'man, sir' occurs, which is typically *pany* instead of *panowie*). In general errors emerge after 3 or 4 years, and they occur with respect to all the forms listed above. Mystkowska (1970) reports gender-agreement errors in plural forms as typical for 6-year-olds.

The most interesting category is the accusative. The rule is inconsistent with that for singular where all animate masculine nouns have the accusative-equals-genitive pattern. It can be therefore predicted that the names of animals of masculine gender will cause difficulties in the accusative plural since they are

[+ MASC] and [+ AN] but [- HUM], and therefore [- VIR]. Indeed such errors are frequent, e.g. Janek (6;6) [speaking about snakes]: *Żeby ich zabić* 'in:order them to:kill' (= 'to kill them'; cf. correct *Żeby je zabić*). Here Janek uses the genitive plural *ich* 'them' following the accusative-equals-genitive pattern, rather than the correct nominative plural *je* 'them', according to the appropriate accusative-equals-nominative for nonvirile nouns. The results obtained for Polish could be then compared to those for Russian and Serbo-Croatian. All three languages have the same distribution of accusative forms in singular with clear-cut differences in plural. In Russian all [+ AN] nouns, irrespective of gender, have the accusative-equals-genitive pattern, and in Serbo-Croatian all masculine nouns, irrespective of animacy, have a specific accusative plural ending which is distinct from both the nominative and genitive plural, whereas feminine and neuter nouns have the accusative-equals-nominative pattern. Such a contrastive analysis could perhaps elucidate more general principles of language acquisition.

6.3.2. *Concessive Clauses.* These appear rather late in the data, and not in all children. Przetacznikowa (1968) noted some single instances in Jaś during his sixth year. In other data they were not found except for Miś at (3;7), e.g. *A zając jest on, choć zając wcale nie jest chłopakiem* 'And a hare is a he, although hare is not a boy at all', and Michał, who even tried to use a concessive clause at 3;0 with the following result: *Ja nie wiem jak się robi most, choć umiem to robić* 'I don't know how to make a bridge, although I can do it', but from 3;8 Michał produced correct forms, e.g. (4;1): *Biedny wilczek. Chociaż on jest niedobry, to ja jego żałuję* 'Poor wolf. Although he is bad, I pity him'; (4;1): *Ale ja widziałem jak z zabitego ktoś ściągał skórę, chociaż był dobrym człowiekiem.* 'But I saw somebody skinning a killed one, although he was a good man'; (4;2): *Bardzo ich lubił, choć ich nie znał. Nieznajomych miłował.* 'He liked them very much, although he didn't know them. He loved the strangers.'; and (5;3): *Te ryby w beczce się nie pozjadają, choć mają dopływ do siebie* 'Those fishes in the barrel won't eat one another, although they can reach one another'.

These data show that concessives are cognitively not as difficult as was expected. The failure to observe concessives in the data could be caused either by their low frequency (as compared with other kinds of adverbial clauses), or by the fact that parents do not use them when speaking to their children. Additional evidence for this claim is supplied by Zabielski's (1974) comprehension tests. Children aged 4 succeeded in 40% of the answers consisting of choosing the right picture out of three presented for each of five sentences, e.g. *Piesek uciekł mimo że był przywiązany do drzewa* 'The dog ran away although he was tied to a tree'. This result approximated the chance expectation. Five- and 6-year-olds did much better giving correct responses—in 62% and 82% cases, respectively. Similar results were obtained with nominalized versions of concessives, e.g. *mimo przywiązania do drzewa* 'in:spite:of being:tied to (a) tree'.

6.3.3. *Comparison, Comparatives, and Superlatives.* The earliest occurrences of comparative degree involve the form *większy* 'bigger' as an egocentric expression of power, e.g. Michał (2;1); *Ja jestem większy od tatusia.* 'I am bigger than Daddy' [disappointed by the reaction of his listeners, he looks around, notices a pair of scissors and says] *Od nożyczek jestem większy* 'I am bigger than the scissors'; Michał (2;4) [after he said that his cousin, Paś, is a little boy] Mother: *Paś jest większy od ciebie* 'Paś is bigger than you' Michał: *Tak. Paś jest większy ode mnie, ale ja jestem większy od Pasia* 'Yes. Paś is bigger than me, but I am bigger than Paś'; Michał (3;0): [to his father, who is drawing] *Ładniej rysujesz niż mamuma* 'You draw better than Mom' Father: *Mamuma też ładnie rysuje* 'Mom can also draw well' Michał: *Tak. Mamuma ładniej od ciebie rysuje, ale ty ładniej od mamumy* 'Yes. Mom draws better than you, but you (draw) better than Mom'. While the example of 2;4 could involve an egocentric meaning 'He is bigger, but I am more important', the latter example clearly shows that the notion of comparison itself is misunderstood, and the comparative degree is used in an absolute sense.

All the children studied made errors that consisted of using the positive form in comparative constructions, e.g. Janek (4;3): *Ja jestem duży niż wujek Staś* 'I am big than uncle Staś'; and, Janek (4;3): *Miś ma mało wody niż ja* 'Miś has little water than I'. On the other hand, the following utterance was recorded from Michał, which made explicit the relative value of compared terms: Michał (3;9): [giving cake to his mother] *Ja ci to dam. To jest większe, a ja sam mam mniejsze. Ale też duże* 'I'll give you this one. It is bigger, and I have a smaller one myself. But (it is) also big'. Even so, later on he continues to use the incorrect form: Michał (4;2): *Pies to głuptas od wilka* 'A dog is a fool than a wolf'. Such errors persist all throughout the period studied, besides correct forms, also for the superlative.

Another case is that of the expression of "sameness." Unlike English or French, studied by Karmiloff-Smith (1977), Polish has two separate expressions for the two meanings: 'same one' is expressed by *ten sam* 'this same'; 'same kind' by *taki sam* 'such same'. Surprisingly, children happen to make mistakes when using these forms, although the correct use normally prevails, e.g. one of my twin sons at 3;8 said, *Zobacz, taki sam!* 'Look, the-same-kind-of!' when noticing the person we had met two hours earlier. And, at 5;5 he asked, *Czy pani jest sama?* which literally means 'Is the lady alone?'. He obviously meant to say *taka sama* as he intended to ask whether the pregnant woman seen in the shop was as pregnant as his mother was at the moment.

Such isolated occurrences of the incorrect use of those expressions indicate that there can be someting difficult in the cognitive distinction between the two kinds of sameness. Thus Karmiloff-Smith's (1979) interpretation, which attributed the errors made by French-speaking children mainly to linguistic factors, should perhaps be tested against experimental results obtained for a language like Polish which makes the distinction more clearly.

CONCLUSIONS

7. Universal Operating Principles and the Acquisition of Polish

The data presented in preceding sections will now be compared with what have been claimed to be universal principles used by the child while processing linguistic information (Slobin, 1973). Some comparisons will also be made with available data on other languages.

7.1. *Operating Principle A: "Pay attention to the ends of words."*

Slobin's Operating Principle A refers to receptive processes ("pay attention") but it is mostly based on the data on production and not on comprehension. As for Polish children, they seem to obey this principle in production. They produce word endings earlier than preposed grammatical morphemes (prepositions and prefixes). It is reasonable to assume that if the endings are produced early, they must have been noticed before, according to the general rule that comprehension precedes production. One cannot, however, preclude the possibility that preposed grammatical morphemes are noticed equally early, but for some reason or other they are not used in production until later.[34]

In the Polish language the modification of a word ending is the most widespread pattern of grammatical marking, with inflectional endings being used much more frequently than preposed morphemes. In this situation it is impossible to say whether the facts observed are due to a universal a priori principle, to which Polish happens to fit, or to the child's prior experience with this particular language, which has led to a similar generalization. If we had the acquisition data of a language which uses mainly preposing, and if children, who learn such a language, ignored the commonly-used device for a less frequent postposing device, we could regard Operating Principle A as proven.

Although it does not apply directly to the beginning and ends of WORDS, there is some less clear-cut evidence which challenges the universal validity of Operating Principle A. It can be found in the acquisitional sequence of 14 English grammatical morphemes as established by Brown (1973) and de Villiers and de Villiers (1973). Why are the PREPOSITIONS *in* and *on* among the earliest grammatical morphemes to appear (rank order 2 and 3)? Why are the PREPOSED articles *a* and *the* (rank order 8) acquired earlier than the regular past ending *-ed* (rank order 9) and the third-person ending *-s* (rank order 10)? The answer to these questions can be found in the general characteristics of the English language, in which preposed and free grammatical morphemes are used relatively frequently.

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[34][WEIST] We are now analyzing the prefixation in the aspectual and locative systems. Our preliminary findings indicate that children from 1;6 to 2;6 develop prefixes surprisingly rapidly, given what has been said about the child's preference to pay attention to the ends of words. [WEIST]

As demonstrated above, English-speaking children discover this morphological pattern relatively early in comparison to Polish children, even if this does not fit the universal Operating Principle A.

7.2. *Operating Principle B: "The phonological form of words can be systematically modified."*

As was demonstrated above, children not only know THAT the forms of words can be modified, but also HOW they are usually modified in a particular language. We should try to trace back the genesis of this knowledge by analyzing the stages which precede the productive use of morphological markers.

Once the child has gained some basic knowledge of phonology which makes it possible for him to recognize sequences of sounds, his efforts concentrate on segmentation of the flow of speech. This early segmentation cannot be done on the whole string of sounds except for some rough procedures of establishing prosodic units. What the child is most interested in is to extract those sounds which can be paired with some referents present in the situation. This task can be more or less difficult depending on the language the child is dealing with. In some languages, the sounds for such referents as 'dog' or 'wash' do not vary depending on the syntactic context except for the fact that they are sometimes accompanied by some additional sounds which precede or follow the word without affecting its phonological and prosodic shape. In other languages, there is more or less considerable variation WITHIN the word conceived as a prosodic unit. The word can be divided into a constant part (a lexeme) and another part which is subject to variation (a grammatical morpheme). In some languages the constant part itself can include some amount of extra variation (stem alternation, etc.). In order to recognize the meaningful referential parts of the flow of speech, such as 'dog' or 'wash', the child must have developed stategies of IGNORING possible variation involved in their forms (cf. Berman, 1985). Paradoxically enough, an early strategy used by Polish children can be formulated as: "Ignore the ends of words," since it is precisely the ends of words which are subject to variation in most cases. Once the child is able to detect lexemes with some ease, his attention can be turned to what has been ignored so far.

What is puzzling is that in spite of enormous differences between particular languages as to the amount of morphological variation involved, the one-word stage does not seem to be especially protracted in any particular language. In my opinion, it is at the end of this stage that every child has gained passive knowledge of the most widespread patterns of morphological variation used in the language under acquisition. This knowledge is used in later stages, when the child starts to make productive use of morphology.

I would like to emphasize the important role of the FREQUENCY of morphological (or syntactic) PATTERNS used in a language. This factor has not usually been taken into account as only the frequency of particular forms or words has been investigated. To make this point clear, let us compare morphological development in English and in Polish. One would expect the morphology of English, being relatively simple and involving a limited number of grammatical morphemes, to be easier to learn than the complex and highly irregular morphological system of Polish. The facts do not confirm such an expectation, as Polish children start to use inflections productively much earlier than English-speaking children do. They do so because they are forced to notice that the most frequent pattern is WORD = STEM + ENDING. English-speaking children frequently hear forms where WORD = STEM, and instances of WORD = STEM + ENDING are relatively less frequent. On the other hand, Turkish children, who deal with a language characterized by a highly regular agglutinative morphology, use inflections productively as early as the one-word stage (Aksu-Koç & Slobin, 1985).

7.3. *Operating Principle C: "Pay attention to the order of words and morphemes."*

There is one preliminary objection as to the formulation of this Operating Principle, and that is that the word order within an utterance and the order of morphemes within a word are two distinct things. This objection is confirmed by acquisition data from many languages. There are no instances of incorrect ordering of morphemes within a word, whereas examples of the wrong word order are rather numerous. This demostrates that children organize their utterances by taking words as basic units instead of by ordering morphemes like beads on a string. We cannot analyze a child's utterances in terms of morphemes without taking into acount the status of particular kinds of morphemes with respect to words. There are lexemes which are equal to words and lexemes which are not autonomous words. There are grammatical morphemes which cannot occur independently (bound) and those which can be used as words (free). Moreover, since most words are also prosodic units—since they have independent stresss—special attention must be paid to clitics, which have the status of words without this prosodic feature.

I have not tried to describe the use of word order by Polish children. The task is very hard, since the rules governing its use in adult language are so complex that they are not sufficiently well described in linguistic literature. All that can be said at this point is that there are large individual differences with respect to adherence to a rigid word order. Anyway, the freedom of word order is much larger than in English-speaking children, who seem to discover the grammatical relevance of the word-order device very early. As for the pragmatic use of word order by Polish children, it needs further detailed study.

[**WEIST**] There is no question about the fact that children can process word-order information, and children learning English rapidly acquire a strategy which involves the use of word-order information to recover basic relations. It has been argued that the basic conceptual relationships which are fundamental to sentence processing are ordered, e.g., agent-action-object-recipient (Bruner, 1975, p.

17). The hypothesis implies that those patterns of nouns and verbs which correspond to the ordered basic relations lend themselves to a "natural" one-to-one mapping. It follows from this argument that order information should precede inflectional information as a cue for basic relations. This argument has been made explicitly for a Slavic language by Radulović (1975, p. 117): "Coordination of SVO word order is a prerequisite to the recognition of structural relationships which may be varied in productive language by the use of inflections."

In Polish, word order has the discourse function of distributing given and new information. According to Szwedek (1976), the least marked sentence pattern is GIVEN INFORMATION IN INITIAL POSITION AND NEW INFORMATION IN FINAL POSITION WITH HIGH STRESS. Syntactic and semantic functions are related to the case system as described in Table 6.1 earlier. If word order is naturally related to ordered semantic functions, children learning Polish should be faced with the predicament of first learning to express and retrieve semantic functions with word order and then later learning the discourse function of word order and at the same time having to discover the relationship between the case system and syntactic-semantic functions. Weist's (1983b) experiment on the role of word order, inflectional information, and given-new discourse patterns is relevant to this issue.

Ten children at two age levels (2;6 and 3;6) participated in an experiment in which the children were required to act out sentences with toys (cf. Slobin, 1982). The children were presented with a sequence of two sentences: a context sentence followed by a test sentence. The context sentence established the given information. The test sentences were semantically reversible. One half of the test sentences were inflected and the other half were "uninflected" (i.e. inflected with a zero morpheme where the nominative equals the accusative case). The following two sentences were typical of the inflected and uninflected target sentences: (1) *dziewczynk-a obudzi-ł-a-ø chłopc-a* 'girl-NOM:FEM:SG wake:up-PAST-FEM-3SG boy-ACC:MASC:SG' (= 'The girl woke up the boy') and (2) *autobus-ø stuknął-ł-ø-ø samochód-ø* 'bus-NOM/ACC:MASC:SG hit-PAST-MASC-3SG car-NOM/ACC:MASC:SG' (= 'The bus hit the car' or 'The car hit the bus'). Thus, the children received the following six types of problems: (1) given-new & SVO, (2) given-new & OVS, (3) new-given & SVO, (4) new-given & OVS, (5) given-new & N_1VN_2, and (6) new-given & N_1VN_2.

When the test sentences contained unambiguous inflectional information (problems 1–4), the children primarily used the strategy NOMINATIVE CASE = AGENT with the following accuracy: 2;6 at 87% and 3;6 at 92%. When the test sentences were uninflected (problems 5 & 6), the children used priority in word order, i.e. an N_1 = AGENT solution, with the following performance levels: 2;6 at 78% and 3;6 at 82%. The manipulation of given and new information did not have a strong impact on the outcome of the experiment. It is possible, however, that the procedure failed to maintain contextual relevance throughout the period of acting out the target sentences with toys. In any event, the children demonstrated the capacity to use inflectional information as well as word-order information, with no indication that the word-order strategy is more primitive. If anything, precisely the opposite is true. Children who are approximately 2½ years old and learning highly inflected languages such as Polish or Turkish (Slobin, 1982) are more accurate in their capacity to process affixes than American or Italian children are in their capacity to process order information.

We have begun to analyze the longitudinal component of the Poznań research project in ways which will shed some light on the relevance of word-order information for children from about 1½ to 2½ years of age. Some of the preliminary findings have been reported (Weist, 1982). We are working with the hypothesis that child language involves pragmatic, semantic, and syntactic distinctions beginning with the one-word phase. Proportionally, pragmatic distinctions (e.g. statement versus request) and semantic distinctions (e.g. agent versus patient) are the most prominent aspects of this early phase of language acquisition. However, Polish children begin to show evidence for a primitive concept of the syntactic function SUBJECT at about 1½ years old. At this age, children begin to use the subject properties of case, agreement, priority (subject before object), and animacy. Other potential subject properties are absent (see Keenan, 1976). In order to understand the relevance of word order for Polish children, we have to look at the property of priority in the context of other properties of subjecthood.

The nominative case emerges first in Polish, but we cannot argue that it marks the notion of subject until it contrasts with other cases. As the case system evolves, we can be more confident that the nominative case is a productive marker. The nominative, accusative, vocative, and genitive cases are normally found before 1;6. The locative, instrumental, and dative cases evolve somewhat later, e.g. for one of the Poznań children, Bartosz, the last two cases were instrumental (found at 1;8) and dative (at 1;9), and for Zarębina's (1965) Hanna, the last two cases were dative (at 1;8) and locative (at 1;10). Agreement has as its point of departure a frozen third-singular form. In singular, the first-, second-, and third-person distinctions are found with numerous varied examples during the period from 1;7 to 1;10, and with the tense-aspect system emerging at a similar time, agreement in gender in the past and future is added. For Zarębina's Hanna, the distinction between second person and third person occurred between 1;7 and 1;9 and the distinction between second person and first was found at 1;11. Hence, as for case and agreement, the initial signs of these subject properties are found at 1½ years and the full system is productive in many children before 2 years-of-age.

In contrast, priority is not a salient feature of the child's early notion of the subject function. Table 6.10 was taken from our preliminary analysis of the productions of two children (see Weist, 1982). During the period from 1;7 to 2;8 the most frequent utterances containing a finite verb are single word utterances with the subject pronoun deleted. Utterances with two nouns and a verb are relatively infrequent. Given verbs in the indicative mood, the set of single noun

TABLE 6.10
Verb Plus Noun Combinations in the Indicative Mood
Produced by Two Polish Children
in 45-Minute Caretaker-Child Interactions
(from Weist, 1982)

	Bartosz					*Wawrzon*					
Pattern	*1;7*	*1;8*	*1;9*	*1;11*	*2;0*	*2;2*	*2;4*	*2;5*	*2;6*	*2;7*	*2;8*
NOUN:NOM—VERB	15	4	5	2	1	6	1	8	11	14	20
VERB—NOUN:NOM	13	1	2	1	2	5	1	8	5	3	9
NOUN:ACC—VERB	5	10	5	8	4	14	4	5	4	0	2
VERB—NOUN:ACC	3	6	4	9	1	16	11	7	6	8	6

plus verb combinations during this period is sufficiently large to provide a basis for comparison, and the following noun-plus-verb combinations were distinguished: NOUN:NOM + VERB, VERB + NOUN:NOM, NOUN:ACC + VERB, and VERB + NOUN:ACC.[35] Given the combinations with a noun in the nominative case, the noun failed to gain priority in 41% of the sentences for Bartosz and in 34% of the sentences for Wawrzon. In spite of conclusions to the contrary, Radulović (1975) reported similar findings for children learning Serbo-Croatian. While Polish (or maybe Slavic) children develop a priority bias for nouns in the nominative case, there is no period during which word order is artificially restricted. Word order is NOT used as a remedial device to deal with the subject function while inflectional apparatus is being acquired. On the contrary, the acquisition of inflectional distinctions appear to precede the priority bias. Our preliminary work indicates that Polish children have a tendency to place new information in initial position (see also Bates, 1976). During the period from 1;6 to 2;6, children change from a NEW-GIVEN to a dominant GIVEN-NEW pattern. The nominal element with the subject function is often the given information. Hence, the development of a subject priority bias may come about coincidentally because children are learning how to distribute given and new information. [**WEIST**]

7.4. *Operating Principle D: "Avoid interruption or rearrangement of units."*

The evidence given in Slobin (1973) as support for this Operating Principle is not satisfactory, since other explanations can be given for the facts cited. Inversion rules are difficult because they contradict other rules which have been

[35][WEIST] Verbs in the imperative mood occur most frequently with nouns in the accusative case (see also Smoczyńska, 1976a), and while we have found both verb-ACC and ACC-verb patterns, verb-ACC patterns are clearly dominant. [WEIST]

acquired earlier. It is the contradiction itself which causes difficulties and not the rearrangement of word order as stated in the Operating Principle D.

The evidence quoted as support for the Universal D2 ("whenever possible, discontinuous morphemes will be reduced to, or replaced by continuous morphemes") concerned with discontinuous morphemes is not convincing, since many other factors interfere. For instance, in the French formula of negation *ne . . . pas* only the element *pas* is stressed, and in colloquial adult language the element *ne* is practically absent. The fact that Slavic children omit prepositions and not the endings has to do with the status and frequency of free vs. bound morphemes as well as those of preposed vs. postposed morphemes. In general, discontinuous morphemes are used only marginally and as such they can be reduced to one part in order to conform with other more frequent morphological patterns.

Insertion of a word into an already established pattern does not seem to be difficult in any language. There are no cases of adding a preposition to a sentence as a whole instead of placing it before the appropriate word, nor of adjective modifiers placed at the beginning or the end of a sentence instead of being placed close to the head. The only example is that of sentence-external negation appearing in some English-speaking children (Bellugi, 1967). The account of this phenomenon, however, is not conclusive (cf. Bloom, 1970; de Villiers & de Villiers, 1979).

It should also be noted that in an agglutinative language such as Turkish, where long strings of grammatical morphemes occur, the ongoing acquisition of morphology involves the insertion of newly acquired morphemes into the word form used earlier (thus, interruption of a linguistic unit) and this fact does not seem to create any serious difficulties.

7.5. *Operating Principle E: "Underlying semantic relations should be marked overtly and clearly."*

The role of perceptual salience, as indicated in the Universal E1 ("A child will begin to mark a semantic notion earlier if its morphological realization is more salient perceptually (ceteris paribus)"), would predict that longer endings should be acquired before shorter ones. Accordingly, Polish children should acquire such endings as the dative singular masculine *-owi* or the instrumental plural *-ami* before other, mostly monosyllabic endings, but this is not the case. It should be noted that the formulation itself of this universal points at the receptive, perceptual properties of some markers, whereas facts given as support for the universal concern production. In order to explain those facts we should rather take into account the prosodic consequences of using an ending or omitting it. If an ending is SYLLABIC, which is the case for most Polish inflections, its omission affects the general prosodic shape of the word form. On the other hand, omitting asyllabic endings does not involve such deformations. This factor cannot be ignored when comparing morphological development in various languages.

As for the Universal E2 ("There is a preference not to mark a semantic category by Ø ("zero morpheme"). If a category is sometimes marked by Ø and sometimes by some overt phonological form, the latter will at some stage, also replace the Ø"), it should be said that the lack of tolerance for zero-endings is typical for those languages which have overt syllabic endings in most word forms. English-speaking children are much more tolerant in this respect than Polish children. If they were not, they should not only replace *two deer* by *two deers,* which is a simple regularization, but also invent the missing markers for, say, the first and second person of verbs, which they do not. The explanation is rather simple: for Polish children zero-endings are exceptions, whereas for English-speaking children it is rather the overt marking which is exceptional. Children's behavior therefore can be explained on the basis of Operating Principle F: "Avoid exceptions."

Universal E3 ("If there are homonymous forms in an inflectional system, those forms will tend not to be the earliest inflections acquired by the child; i.e. the child tends to select phonologically unique forms, when available, as the first realization of inflections") does not seem to be supported by the data. English-speaking children should be reluctant to use the multifunctional *-s,* but they are not. Likewise in Polish, the ending *-i,* which serves a number of functions in the noun-declension system (see Table 6.2), is among the earliest endings used by children.

7.6. *Operating Principle F: "Avoid exceptions."*

This Operating Principle is without any doubt universal. Its universality, however, is by no means restricted to language acquisition, but is present in every domain of cognitive development in which the child is trying to generalize on the basis of common experience, while ignoring exceptional instances.

On the other hand, particular universals given under the heading of this principle concern two distinct things. Some of them refer to true exceptions (i.e. instances where a rule is not based on any explicit criteria), while others are concerned with subrules valid for a narrower range of cases than that of a superordinate rule and based on some explicit criteria (cf. the discussion of irregularity vs. formal complexity in Section 4). Exceptions—and I mean true exceptions—are a nuisance for the child and he copes with this difficulty simply by ignoring them or by overregularizing correct irregular forms which have been learned earlier as separate items.

Quite a different problem is that of dealing with formally complex systems, i.e. those which involve a large number of subrules and/or complicated hierarchies of subrules to be applied. The number itself of rules involved does not seem to be especially relevant. What is important is the INTERNAL COHERENCE of the given (sub)system. A system is internally coherent if its subrules do not contradict more general rules and if some proportions are preserved throughout the whole system. For instance, an English-speaking child, who has already learned SV order, will find the inversion rules used for questions difficult since VS contradicts SV. After this rule has eventually been acquired, another difficulty arises with embedded questions that have the surface form of questions, except for the fact they are not inverted.

In order to make this point clear, let us analyze the case of the Egyptian Arabic plural system, which has been repeatedly quoted as a canonical example of formal complexity (Slobin, 1973; Clark & Clark, 1977) and which in fact involves not only formal complexity but also irregularity and incoherence. If the Arabic system has three numbers, i.e. singular, dual, and plural, this is only a sign of greater formal complexity than that of a language like English, for example, which has only two numbers. If plural nouns accompanying numerals above 10 do not take normal plural forms but a zero ending (typical for the singular) this still is a sign of formal complexity and—what is more—an instance of incoherence since a zero ending is already used for the singular. The complexity, as manifested by the existence of two subrules for plural forms, is not in itself the cause of difficulty since a similar situation can be found in Polish and the rules are acquired early and without any problems. (Polish nouns with numerals from 2 to 4 take the regular nominative plural form while those accompanied by numerals above 4 take the genitive plural ending.) The source of difficulty is therefore to be found in the contradiction of using a zero (singular) form to mark a noun for plural. Finally, the fact that most nouns have totally unpredictable irregular plural forms has nothing to do with formal complexity but is a sign of irregularity. To conclude, it seems that choosing the Arabic number system as a canonical example of formal complexity has led to confusion rather than to clarification.

The evidence that complex systems can be acquired easily, provided they are coherent enough, can be found in Polish data on the acquisition of singular declension, where the tripartite gender distinction—masculine/feminine/neuter—is preserved in the whole paradigm with some more subtle subdivisions introduced at some places. On the other hand, the plural paradigm, which involves fewer endings (and fewer rules) than the singular, is more difficult because the proportion is destroyed. In some cases there is no gender distinction at all, and in others, a new distinction of virile/nonvirile gender is introduced, contradicting the distinction between masculine animate vs. inanimate nouns introduced in the accusative singular. Finally, in the genitive, the tripartite distinction is maintained, but neuter nouns are grouped together with feminines, and not with masculines, as they were in the singular.

It is not only the lack of internal coherence of the plural noun declension which makes this subsystem difficult to learn. Another factor is what can be called "external coherence"—the relation of a subsystem to other (possibly related) subsystems within a language. In this case, rules governing the distribution of endings in plural contradict the rules of a previously acquired related subsystem, namely, that of singular.

Any subsystem is acquired as part of the whole system of a language and its acquisition cannot be analyzed in isolation. If the structure and function of forms under acquisition are coherent with those of related parts of the system, and if the same criteria are maintained across subsystems, these forms are much easier to acquire than in cases where contradictions and incoherences are present. In any system of language there are weak points, incoherences, which are usually the focus of ongoing and future linguistic change, as reflected in adult errors, as well as in dialectal regularization. Child language is especially sensitive to these incoherences, which appear to be the main source of late errors. Child language study may help to detect and interpret them, as children's forms are more systematic and clear than occasional adult modifications.

As far as irregularity is concerned, an important question to be answered in further study is: What are the limits of the child's tolerance for irregularity? What amount of irregularity can be ignored without causing confusion and forcing the child to use "avoidance strategies" such as the inflectional imperialism strategy used by Russian children, who are unable to discover the regular distribution of endings?

7.7. *Operating Principle G: "The use of grammatical markers should make semantic sense."*

While questioning the validity of this Operating Principle, I do not mean that the child is not sensitive to semantic criteria of rule application. In fact, children usually look for such criteria, since in most cases formal distinctions can be found to correspond to semantic distinctions present in a language. What I want to say is that if there are no semantic criteria of formal distinctions, even purely formal criteria can be easily captured, provided the children needs to use the given forms and the criteria are consistent enough. Whether they are semantic or formal is less important than whether they are consistent or not. Therefore Universal G3—"Semantically consistent rules are acquired early and without significant errors"—is valid because it is a narrow instance of another universal, which says: "ANY consistent rule is acquired early and without significant error" (provided the child needs to use forms involving these rules, which is not necessarily the case). This broader universal, however, is nothing else than a positive formulation of Operating Principle F: "Look for consistencies" instead of "Avoid exceptions." As has already been said, there is nothing specifically linguistic about this operating principle.

The main argument for the easy acquisition of a formal system is presented in Section 6.1.1, where the acquisition of Polish gender is discussed and compared with that of Russian. Other examples are provided by the early acquisition of the distribution of endings based on the phonological form of the stem or the fact, already mentioned, that the formal rule of using the genitive plural of nouns with numerals above four is acquired easily and without errors. In fact, one could reasonably claim that the whole acquisition of phonology is the most convincing case of easy learning of purely formal rules. There is nothing semantic in basic phonological oppositions; they can only be used for semantic purposes, but they are not semantic in themselves.

8. Language Acquisition Strategies: Universal or Language Specific?

The analysis presented above demonstrates that children learning Polish proceed as if they conform to some Operating Principles proposed by Slobin (1973); whereas they are reluctant to do so with respect to some other Operating Principles. Whether they obey or not depends on the features of the particular language they learn. It can be said that these features contribute either to strengthening the validity of a particular Operating Principle, or to weakening (or even abolishing) it. This result contradicts Slobin's assumption that the acquisition of devices which do not fit the universal principles will be delayed. What appears in the data is that children are more likely to reject an Operating Principle which does not fit the particular language rather than to reject a particular linguistic device which does not fit their Operating Principles. Should we therefore admit that the Operating Principles are not independent of the ongoing process of acquisition, but that they are being tested against the data of a particular language and revised according to the results of this verification?

In order to answer this question we have to discuss the origin of the Operating Principles. Slobin is not explicit as far as this problem is concerned, since he avoids discussing the nativism vs. empiricism issue in language acquisition. However, he qualifies the Operating Principles as something which every child brings to bear on the problem of language acquisition (1973, p. 197)—as something preexisting with respect to the process of acquisition. The question I would like to ask is whether the child actually obeys some of the preexisting Operating Principles or does he just behave AS IF he were doing so. To put it another way, are the Operating Principles actually brought to the task of learning a language as something which existed prior to the acquisition process? In view of what has been said above, it seems simpler to propose that the Operating Principles the child is obeying are nothing else than the outcome of his LINGUISTIC EXPERIENCE. Hence, they are the generalizations about a particular language he has made on the basis of prior learning rather than the effect of testing preexisting principles against the specific data. Therefore, the claim is that all the Operating Principles are totally LANGUAGE SPECIFIC, as they are built upon the child's experience with a particular language. Some strategies are universal in the sense that they are present in the acquisition of any language, e.g. "Avoid exceptions" (or, better, "Look for regularities and ignore the remainder"). We should, however, take into account the fact that every language is more regular than irregular, and also that "looking for regularities" is the only economical way to build any kind of knowledge. It is a strategy which is used by the child in many other domains of learning and a long time before he starts to speak.

Another aspect which is not taken into account in Slobin's procedure of establishing language acquisition universals is the system-like nature of human language. The child not only discovers that the language he hears is rule-governed but also that the rules are interrelated to form a system. What is more, while building his own language the child does not memorize a list of unrelated rules but also builds up a system. Here too, there is nothing specifically linguistic about this, since any knowledge is systematized in a similar way. When analyzing the data we are frequently tempted to forget this and to isolate one category (or one rule or one subsystem) and to relate its acquisition to one Operating Principle. However, something can be difficult for the child because it cannot be easily integrated into the already existing NETWORK of rules. In such a case, the rule can be modified to fit the system, or its acquisition can be postponed until the child is able to rebuild his system in order to create a place for the rule in question. In the first case, that of creating an "erroneous" rule which fits the child's system but not the adult's, its genesis should be analyzed in terms of the system as a whole rather than be attributed to a single factor as the necessary and sufficient reason of its formation. As I have tried to demonstrate at many points in this paper (Section 4), the formation of such a rule seems to be due to the joint action of several factors which altogether form the necessary and sufficient reason, although none of them taken alone can be said to be sufficient by itself.

There is still another assumption of Slobin's procedure which is not supported by the data. As demonstrated by Judith Johnston (1985), cognitive development does not seem to be the main pacesetter of linguistic development. It is true that the child cannot express a notion which is not cognitively available at a given moment, but the fact that he is able to grasp a notion does not necessarily involve the appearance of its linguistic expression in his speech. In fact, many semantic categories are not used at the time they are cognitively available, and their emergence in the child's speech should be attributed to other factors.

We are often tempted to conceive of language acquisition as an activity comparable to those of a linguist who is trying to discover the rules of an unknown language. This metaphor does not take into account the obvious fact that the acquisition of language is not an activity per se (as linguists' investigations are) but it is only a marginal outcome of the child's efforts to USE an unknown language. If we look for pacesetters of language development, it is therefore reasonable to expect to find them in the domain of language use. Rules which are acquired early must be not only cognitively available (this being the necessary although not sufficient condition) but also, and foremost, USEFUL. Sometimes the particular language forces the child to acquire a rule early, although its use is based on relatively difficult criteria. In such cases we can think about the influence of language on cognitive development. The rules which are most useful are those which involve frequently-used structures. In this sense the role of frequency must be taken into account.

In order to build a system the child must start by learning the most basic rules of the language. These basic rules are at the same time those which are frequently used since they are present in simple constructions, as well as in more complex ones which are derived from them. In his discovery procedures the child is helped by the special features of the adult language addressed to him, simplified at the beginning and growing more and more complex as the child's linguistic competence develops. We should bear in mind, however, that the adult interlocutor is shaping his utterances according to the child's presumed PASSIVE competence, which significantly outgrows what he is able to produce at a given stage. Therefore, if we investigate the child's speech at the moment when he starts to put words together, we can assume that he knows much more about putting words together than he demonstrates in his early two-word sentences. Yet it is very difficult to establish his passive knowledge, as comprehension techniques are difficult to use at very early stages. On the other hand, we should not assume that all that adults say is processed by the child; an error commonly made by investigators of the input language. The child probably has his own selection procedures, which help him to pay attention to particular features in turn while ignoring the remainder. These procedures are also very difficult to investigate.

As far as early child language is concerned, we should also take into account the fact that most of the exchanges occurring between the child and the adult refer to ongoing activities and objects present in the situation. At this stage, utterances cannot be ambiguous since their meanings can be easily discovered from the situation itself, and this is in fact what both child and adult do without paying much attention to grammatical markers present in utterances. At this stage grammatical markers are quite superfluous since successful communication could be achieved as well if they were not used at all. Most students assume, however, that the child starts to use inflections, word order, or other marking devices in order to disambiguate his utterances. In my opinion, this is not so until much later, when the child starts to talk about other places and other times than those of the speech situation. His early marking devices are introduced only because he wants his utterances to resemble the adult model, and since the word as prosodic unit seems to be the main element of his utterance organization, those markers which are parts of words (and not autonomous morphemes) and which have a prosodic value (syllabic) seem to be the easiest to acquire. This is the only result of crosslinguistic studies performed so far which I would call universal and specifically linguistic. Nevertheless, I do not claim this to be innate but rather resulting from the situation of communication at early stages, which is similar for all children.

To summarize, the child learning a language elaborates a set of processing procedures, which are determined by general cognitive principles on one hand, and the nature of the specific language on the other. These procedures change as the child's linguistic system develops. New procedures appear to deal with new problems and they are always based on the linguistic experience the child has at a given stage. Crosslinguistic study should take into account the dynamic aspects of child language development. We should compare DEVELOPMENT of various systems rather than single out particular facts to be compared without paying attention to their systematic and developmental contexts unless we actually believe in innate linguistic capacities which specify with much detail the order of acquisition. In my opinion, however, there are no data to support such a claim, and the efforts to account for the mysteries of child language development by innate propensity result in explaining ignotum per ignotum.

APPENDIX A

Tips on Polish Phonology and Pronunciation: Grapheme, Phoneme, and English Word [WEIST]

Stops[a]

	Bilabial	Dental	Velar
Voiced	b /b/ bad	d /d/ dog	g /g/ gas
Voiceless	p /p/ pan	t /t/ tap	k /k/ karp

[a]Bilabial and velar stops have palatalized and nonpalatalized pairs such as /k/ in *kosz* 'basket' vs /k'/ in *kiedy* 'when'.

Fricatives[b]

	Labiodental	Dental	Alveolar	Velar
Voiced				
Nonpalatal	w /v/ van	z /z/ zoo	rz or ż /ž/ treasure	
Palatal	wi /v'/		zi or ź /ź/	
Voiceless				
Nonpalatal	f /f/ fog	s /s/ sod	sz /š/ sHeep	h or ch /χ/ loCH
Palatal	fi /f'/		si or ś /ś/	hi or chi /χ́/

[b]English palatal fricatives and affricates as in treasure, sHeep, loCH, JUMP, reaCH are pronounced somewhere between the Polish alveolar nonpalatal and the dental palatal counterparts.

Affricates

		Dental	Alveolar
Voiced	Nonpalatal	dz /ʃ/ faDS	dż /ǰ/ JUMP
	Palatal		dzi or dź /ʃ́/
Voiceless	Nonpalatal	c /c/ caTS	cz /č/ reaCH
	Palatal		ci or ć /ć/

Resonants

		Bilabial	Dental	Alveolar	Palatal
Nasal	Nonpalatal	m /m/ man	n /n/ note		
	Palatal	mi /ḿ/	ni or ń /ń/		
Medial (glides)		ł /u̯/ win			j /i̯/ young
Lateral (liquid)			l /l/ leaf		
Trill				r /r̃/ room[c]	

[c]The Polish r is "rolled."

Vowels[d]

	Front		Back
High	i /i/ peek		u or ó /u/ book
Lower high	y /ɪ̈/ sit		
Mid nonnasal	e /e/ ten		o /o/ mole
Mid nasal	ę /ẽ/		ą /õ/
Low		a /a/ father	

[d]The English examples only approximate the Polish vowels, e.g. /ɪ̈/ is between *sit* and *set*.

In general, (1) voiced consonants become voiceless in word final position or when followed by a voiceless consonant, e.g. the phoneme /g/ in *śnieg* 'snow' is pronounced [k], cf. [g] in *śniegu*; (2) when followed by some consonants, nasal vowels /ẽ/ and /õ/ are pronounced as the nonnasal counterparts plus [m], [n], or [ŋ] depending on the place of articulation of the consonant, e.g. the /ẽ/ in *ręce* 'hands' is pronounced [r̃ence] while in *ręka* 'hand' it is pronounced [r̃eŋka]; and (3) the stress normally falls on the penultimate (prefinal) syllable of polysyllabic words, *písze* '(he):writes', *autóbus* 'bus', and *portmonétka* 'wallet'.

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