Working Papers
Department of Linguistics and Phonetics
Lund University
Helgonabacken 12
S-223 62 LUND
Sweden

Fax: +46 46 104210
e-mail: lingf@lingf.lu.se

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Introduction

Do you know an internationally adopted child? International adoptions have become so common in Sweden that almost all of us know, or at least know of, a family with a child adopted from abroad. One way to concretize the situation of an internationally adopted child is to think of any child around two years of age: your own child, your grandchild, your sister's child, or the child of your neighbours or friends. Can you imagine this child being moved to the other side of the world, into a new family, a new culture and to a new language? Children of two know a lot. They know their immediate surroundings and people around them, they know how to behave in different situations, and they know what can be expected from people they meet. They have a language and some of them may speak quite well, whereas others have not yet started to speak much but they understand perfectly what is said to them. What is the reaction of an adopted child when he realizes that on top of all the changes and on top of his grief over what he has lost he cannot even use his language?

I was first faced with adoption when friends of mine adopted a boy from Columbia some five or six years ago, and I was struck by the apparent ease and speed of the boy's language development. At this time I had just finished a graduate course in child language in which I had been studying early communication between infant and caretaker, which in a majority of studies is the mother, who has traditionally been regarded as the prime caretaker. With this fresh in my mind, the future of an adopted child appeared hopeless to me. According to the adoption literature most of these children have had an extremely poor communicative start and sooner or later some of them will encounter language problems. I also found out that apart from a couple of studies based on mail enquiries sent to parents or teachers, there existed no investigations about communicative or linguistic development of internationally adopted children. So I asked:

How do children and parents communicate as absolute strangers without even having a language in common? This situation and the ensuing research during the following two years is the theme of this thesis.

Aims and scope of the study

As the first study in what I hope will soon be a series, I wish to describe the language switching process and the early linguistic and communicative development of internationally adopted children. I have chosen to study three children of an age group which has been found (Gardell 1979) to be the most critical as regards linguistic and communicative development, namely children adopted between the ages of 1:6-3:0. I have made comparisons with one early adopted child (8 months at the time of adoption) and one late adopted child (adopted at 4:3) as well as with one Swedish non-adopted child. The children all come from foster homes but have different backgrounds in terms of the period of time and the quality of the time spent with their biological mothers.

The linguistic and communicative development of five internationally adopted and one non-adopted Swedish child was studied with focus on the following aspects:

1. The children's and mothers' choice of communicative channel (verbal or non-verbal) and - in the case of the children - the gradual development from predominantly non-verbal to verbal communication.

2. The children's and mothers' choice of certain interactive strategies in order to improve communication, the learning of a new language, and the creation of a 'togetherness' and a good atmosphere for interaction.

3. Different patterns of responsiveness in both children and mothers in a developmental perspective.

4. The mutual adjustment occurring between a mother and a child as reflected in the choice of utterance function and form.

5. The children's verbal development, measured in mean length of utterances, turns, and topical strings and the use of the original language, are followed developmentally. After the two-year period of investigation all children's language comprehension, grammar and vocabulary were tested and their spontaneous speech analysed.

The study consists of a number of case studies, and anything but very broad generalizations about the communicative and linguistic development of internationally adopted children (or about non-adopted children, for that matter) would of course fall outside its scope. Being the first study within the field, however, I think it sheds light upon some very important issues concerning the communicative and linguistic development of internationally adopted children.

Outline

In Chapter 1 I will give some information on the adoption phenomenon and discuss the background of internationally adopted children as compared to non-adopted children, as well as give a review of previous studies both within linguistics and neighbouring disciplines (child psychiatry, sociology, etc.).

Chapter 2 presents the theoretical basis upon which the study is built. The early experience of a non-adopted infant and child is presented and compared to that of adopted children, with special focus on the interaction with a mother or a mother substitute that plays an important role both when it comes to communicative and to social, emotional, and mental development. Furthermore, a number of communicative aspects are discussed in which internationally adopted children could be expected to behave differently from non-adopted, Swedish-born children.

In Chapter 3 the data and the methods of the study are presented.

In Chapters 4 and 5 the results of the study are presented and discussed. Chapter 4 presents results of the children's linguistic and communicative development, giving figures of the mean lengths of various units (turns, utterances etc.). Furthermore, Chapter 4 presents results of what communicative channels are used, and how they are used. It also gives results of patterns of responsiveness, as well as what and how utterance functions and syntactic form of utterances are used. Chapter 5 gives a picture of the children's verbal competence. It presents the results from a number of tests carried out at the end of the two-year investigation period of this study.

Finally, Chapter 6 summarises and concludes the study and gives some implications for international adoptions and for future investigation.

1 International adoptions

This chapter gives some general information on the adoption procedure in Sweden, its history and recent statistics. It also presents the people involved - the parents and the children. The chapter concludes with a review of previous research on adoption.

1.1 Adoptions in Sweden

Until 1778 infanticide was a common occurrence in Sweden. In order to prevent this the Infanticide Brief was issued, giving the mothers of illegitimate children the possibility of registering their children as 'born of an unknown mother', making it possible for the child to be placed in a foster home. Many mothers were in no position to take care of their children and thus they made use of the Infanticide Brief. In the 1880's every second child born in Stockholm was illegitimate, and during 1880-1922 20,000 children were left at *Allmänna Barnhuset,* the major orphanage in Stockholm *(Allmänna Barnhuset* 1990).

In 1918 the Swedish Adoption Act prohibited the (at that time common) procedure of selling poor, orphan or illegitimate children by auction. After this date orphan children could be placed in foster homes, where their situation was often that of being regarded as inferior to the biological children of the family and they had to work hard for a living. As before, children could also be adopted, but now they were guaranteed, through the Adoption Act, to inherit from their parents. Adoption was, however, 'weak'; i.e. the children could not inherit from other relatives. The Adoption Act of 1959 granted adopted children the same hereditary rights as children born within the family, i.e. adoption became 'strong'. As of 1971 adoptions cannot be cancelled.

During and after World War II many so-called war children came to Sweden, particularly from Finland, and were either placed in foster homes or adopted by Swedish families. As a consequence of the Korean War (1950-1953) interracial adoptions became a common phenomenon. At the end of the 1950's adoptions were undertaken by people who had been living and working abroad. The main reason for these adoptions was often humanitarian - it was the wish to take care of a poor and perhaps also sick child who would have had few possibilities to survive in his native country. From 1950 to 1966 a total number of 240 foreign

children were adopted into Sweden, mainly from Europe (Greece, Jugoslavia, Poland) and from Korea, Ethiopia, India and Iran *(Adoptionscentrum* 1982).

Between 1970 and 1980 there was a substantial increase in the number of international adoptions in Sweden. This first large generation of adoptive parents, whose motives were primarily idealistic, has been defined by Hoksbergen (1991) as the Progressive-Idealistic generation. The next (and present) generation of adoptive parents is called the Economic-Realistic generation. The latter are parents with a greater general and scientific knowledge concerning adoptions. Their expectations are more realistic than those of the Progressive-Idealistic generation, whereas their idealism and interest in the third world has decreased.

In order to control and supervise international adoptions, NIA (The Swedish National Board for Intercountry Adoptions) was established in 1973. The actual administrational work is however carried out by authorized organisations, of which AC *(Adoptionscentrum)* is the largest. Private adoptions exist, but 90% of all adoptions are administered by an authorized organisation. Today, national adoption is extremely rare. In Scandinavia and in Holland only 2-4 children per million inhabitants are left for adoption every year (Hoksbergen 1991).

During the 1970's and the first half of the 1980's international adoptions became frequent with 1,500 to 2,000 children arriving every year. Today, more than 32,000 people living in Sweden have been adopted from abroad. Around 1988-1990 there was a decrease in the overall number of children arriving. However, it seems as if the trend has turned again (see table 1.1).

Different countries have dominated the statistics over the years, and generally we can say that international adoptions are likely to occur some time after war or natural catastrophies have haunted a country; e.g. Korea, Vietnam, Bangladesh and Poland (Hoksbergen 1991). Compare also the worldwide wish to adopt Rumanian children after Christmas 1989.

Asia, which still dominates as the leadning continent of origin with 42% of all adopted children, used to represent an even larger proportion (65% in 1986). Within Asia Sri Lanka (10% of the children) and India (9% of the children) are the most important adoption countries. Korea used to be an important country, but has during the last years decreased considerably. In South America, the continent of origin of 32% of all adopted children, Columbia is the leading country with 17% of all children. Africa contributes with only 4% of all adoptions, and most of the children come from Ethiopia. In Europe, which has increased its share on the adoption map from 12% in 1989 to 22%, the leading countries are now Poland with 11% and Rumania with 6% of the world share.

The figures of table 1.2 represent the most recent statistics on children immigrated to Sweden prior to adoption. Legally, the child will not be adopted until after six months in the new family, during which time he is formally a foster child.

Currently, there is an overall decrease in the number of children available for international adoption. The general opinion of the authorities in the foreign countries is that the best alternative for a child who has lost his parents is to grow up with relatives in his home country. If this is not possible, then he should possibly be adopted within his own country or go to a foster home. International adoption comes only as third alternative. As fourth and worst alternative comes growing up in an institution (NIA 1982).

Throughout this thesis the word adoption will be used synonymously with international adoption. When there is a need to speak about adoptions within the country these will be referred to as national adoptions. For practical reasons, international adoption will often be abbreviated as IA. The expression IA children will thus be used to refer to internationally adopted children.

Table 1.1 Number of children immigrated to Sweden 1969-1991, pending adoption.

From SCB (Swedish Central Board of Statistics)

Year	Children/year	Total
1969	1031	1031
1970	1 150	2 181
1971	1 369	3 550
1972	1 364	4 914
1973	1 314	6 228
1974	1 443	7 671
1975	1 517	9 188
1976	1 783	10 971
1977	1 864	12 835
1978	1 625	14 460
1979	1 382	15 842
1980	1 703	17 545
1981	1 789	19 334
1982	1 474	20 808
1983	1 651	22 459
1984	1 493	23 952
1985	1 560	25 512
1986	1 542	27 054
1987	1 355	28 409
1988	1 074	29 483
1989	883	30 366
1990	965	31 331
1991	1 113	32 444

Table 1.2 Number of children immigrated to Sweden in 1991, pending adoption. Percentages given for countries with 1% or more of the total immigration.

From SCB (Swedish Central Board of Statistics)

North and South America		
Bolivia	31	(3%)
Brazil	68	(6%)
Chile	16	
Columbia	188	(17%)
Ecuador	10	
Guatemala	2	
Haiti	1	
Honduras	1	
Jamaica	1	
Mexico	1	
Nicaragua	1	
Panama	1	
Peru	5	
SUM	355	(32%)

Europe		
Bulgaria	3	
Greece	1	
Jugoslavia	6	
Poland	124	(11%)
Portugal	7	
Rumania	71	(6%)
Soviet Union	19	
Spain	1	
Czechoslovakia	7	
Hungary		
SUM	247	(22%)

Oceania and Australia		
Australia	1	
New Zealand	1	
SUM	2	(1%)

Africa		
Algeria	2	
Gambia	1	
Ghana	2	
Guinea-Bissau	1	
Ivory Coast	1	
Ethiopia	17	
Kenya	1	
Morrocco	3	
SaoTome & Principe	2	
Somalia	3	
Tanzania	4	
Tunisia	2	
Zaire	2	
Zambia	2	
SUM	46	

Asia		
Bangladesh	1	
Philippines	14	
Hong Kong	1	
India	100	(9%)
Iraq	4	
Israel	11	
Japan	4	
China	5	
Korea	75	(7%)
Kuwait	1	
Lebanon	1	
Pakistan	4	
Sri Lanka	109	(10%)
Taiwan	1	
Thailand	34	(3%)
Turkey	6	
SUM	463	(42%)

TOTAL 1991 1,113

1.1.1 The adoptive parents

Presumptive adoptive parents must be subjected to thorough examinations with regard to their suitability to care for a child. Conditions considered are e.g. the past: childhood and youth, education, and earlier employment; the present: employment, financial status, living conditions, health, religion, marital status, personal interests, relations within the family, neighbourhood and friends, personal motive for adoption, attitude towards children, etc.; and the future: plans and expectations.

This might at first glance strike one as unfair compared to the fact that 'biological' parents can have children without having to be approved first. It is, however, thought that adoptive parents must have a very high preparedness and readiness to cope with the difficulties that are likely to arise, in particular during the first half year or so after the adoption. The older the child at the time of adoption, the greater is usually the strain put on the parents.

The parents should also be equipped with a good deal of patience. All the investigations and statements that have to be made by different authorities both in Sweden and abroad take time. It is not unusual for presumptive adoptive parents to have to wait for two or three years for a child.

Since the number of children available for adoption cannot satisfy the demand, parents can no longer expect a baby, but should be prepared to take a child of two or three or an even older child, as well as to accept a child with a handicap. It is not possible to choose the gender of the child.

1.1.2 The adoptive children

It is difficult to discuss the IA children as a group, since their background can be so varied depending on home country, age, mental and physical health, living conditions, etc. They all carry their own personal experiences, but they also have something in common:

They have all undergone *separation* - once or more. In one way or another they have lost their biological mother, either immediately after being born or later. They may have been living in a foster home for some time, long enough perhaps to establish good relations with all the members of the family. Some children, for various reasons, do not get on well in a foster home and therefore have to move between several foster homes. Other children have to spend time in an institution or hospital.

The adoption changes their lives entirely. The change involves: family, environment, culture, food and drink, and *language.* All these factors are likely to have an influence on the general development of the child - socially, emotionally, physically and linguistically. I would like to argue, however, that it is rather the 'losing' or 'never having had' than the 'getting' that can cause problems both during the adaptation process and later on. Having to face a new situation can of course be a strain on the child, but I think that the grief he or she can experience over what has been lost or even worse - probably never had - plays an important, if not dominating, role in the adaptation process. The consequences of being deprived of a continuous and intimate relation with a mother or a mother-substitute have been presented by e.g. Bowlby (1953) and recently these thoughts have been applied to the situation of the IA children by Madeleine Kats (1990).

Adopted children and immigrant children

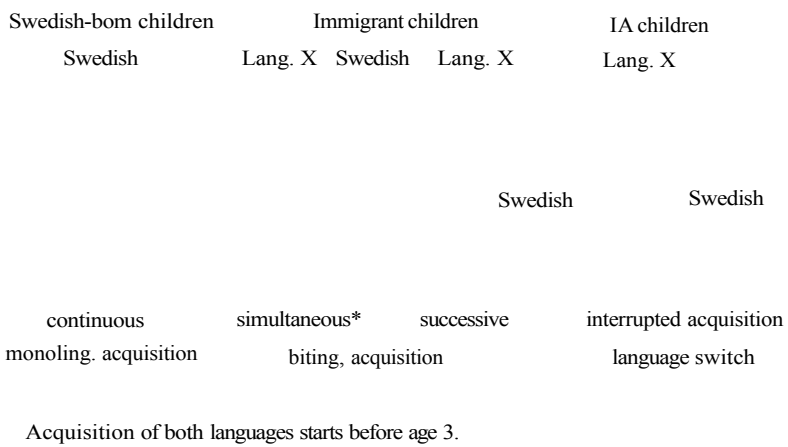
The language situation of IA children is different from that of immigrant children in that the adopted children leave their original language behind. In very few cases do the adoptive parents speak the child's original language, unless they have been living in the country of origin for a long period. It is common that parents speak a 'school language' as learned in an evening class. They generally lack words for comforting, hugging and cuddling. Also they may not understand the baby-Spanish or baby-Korean their children speak.

The IA children stand alone. It is difficult, and in some cases impossible to help the children to retain their original language. Children who come from Spanish-speaking countries have some chances to meet other children speaking the language, since there are many immigrants from Spanish-speaking countries living in Sweden. Children who have not yet reached school age, however, spend most of their first years with their families only, and by the time they meet other children they will have forgotten the original language. At school they will be offered training in the original language just like an immigrant child ('home language training'), provided a teacher can be found. However, it is common that the adopted children refrain from this training programme (Hene 1987b; Saetersdal & Dalen 1991) with the excuse that it does not make sense, since they do not have anyone to talk to apart from the teacher - they have no longer any use for their original language.

Immigrant children, on the other hand, come to their new country together with their families and continue to speak their first language with them. In cases where the family settles down in an area with other immigrants from the same country, the children will also be able to make friends with other children who speak their first language.

Hene (1987a) illustrates the differences between the language development of IA children in comparison to immigrant children and Swedish children in first language acquisition as in figure 1.1.

Figure 1.1 Language development of Swedish-born, immigrant, and IA children (fromHene 1987a: 17).



The language switch - First or second language?

IA children switch languages. How do we characterize the acquisition of the new language - Swedish? As first or second language acquisition? The answer to this question will depend on two factors:

1. The *criteria* according to which we choose to define first or second language acquisition.
2. The *age,* or rather the language status, of the child at the time of adoption. Needless to say, the situation is different depending on whether the child is three months or five years when adopted.

Klein (1986) defines first language acquisition according to two criteria, namely *the sequence of acquisition,* i.e. the order in which the two languages are acquired - first language first, second language in second place - and the *importance of the language of acquisition,* i.e. which of the two languages plays the most important role for the learner. The majority of the IA children already have a first language when they come to Sweden. However, Swedish is or will soon become their first language in terms of importance. It will probably be the main language for communication throughout the child's life. It appears that we shall have to use the importance criterion when referring to the language acquisition of IA children. This criterion further implies that one can switch first language. This is also proposed by Skutnabb-Kangas (1981), who defines the notion of *mother tongue* according to four different criteria: origin (the language you learn first), competence (the language you know best), function (the language you use most), and attitude (the language you identify with).

According to all but the origin criterion, which equals Klein's sequence of acquisition, it is possible to switch mother tongue several times in life. Klein (1986) also takes age into consideration, as presented in figure 1.2.

Figure 1.2 Language acquisition profiles.

Age	Acquisition of language A	B	Designation
1-3 years	+	-	monolingual FLA
	+	+	bilingual FLA
3-4 years up to puberty	+	+	child SLA
after puberty	-	+	adult SLA

(FLA = first language acquisition, SLA = second language acquisition

(from Klein 1986:15)

A definition like Klein's would result in inappropriate definitions of the language acquisition of IA children, since it would divide the children into two groups: bilingual first language acquirers if adopted before the age of 3-4, and second language acquirers if adopted at a later age. But of course no one could argue that these children are bilingual (unless adopted by a Spanish-speaking family living in Sweden, where one of the parents had Swedish as first language and both languages were used at home). They could perhaps be said to be second language acquirers, but in that case without an active first language, since they would not be able to maintain the first language (see 2.1.2.1 for a comment on 'home language training'). As a result of not having any opportunity to speak their first language the children very soon seem to forget it (Gardell 1979, Hene 1987a).

Tingbjorn (1982), in discussing the question of how to refer to the language acquisition of IA children, proposes that we use the term *first language acquisition,* with the addition *under complicating circumstances.* His definition is based on the importance criteria, or the expected proficiency level - first language level. The complication is due to the fact that the children abruptly lose contact with their original first language and replace it with another.

My view is that the IA children's first language development is interrupted, in most cases never to be taken up again. They are faced with a new language, a second language that is supposed to be acquired to the level of first language mastery. *They are switching first languages* and Swedish is for them becoming *'a second first language'.* The terms first and second language acquisition are perhaps not appropriate to use when talking about language-switchers. I will therefore refer to the different languages as the *original* and the *new* language.

Language switching children

One of the earliest Swedish studies of a child switching languages was made by Bertil Malmberg (1945). This was a study of a Finnish war refugee child coming

to Sweden at the age of 4. In the Swedish family no one knew enough Finnish to be able to speak to the girl. The study contains a number of examples of Finnish influence on the girl's phonology, morphology, syntax and lexicon.

Another refugee child switching languages was studied by Tits (1948). This was a Spanish girl adopted by a Belgian family when she was almost 6 years old. Her French language development is said to be similar to first language acquisition and is divided into phases: Phase 1, which lasted for one month, consisted of one-word utterances in Spanish and French. Phase 2, from months 2-6, contained two- and three-word utterances in French, of which many were ungrammatical. The use of Spanish disappeared after 2 months. After 10 months she had acquired French perfectly, with respect to her age.

Some studies by linguists who have spent a few years at a foreign university and taken their families with them have reported on the process of their children's acquisition of the new language (e.g. Ravem 1974, Wode 1981). Other studies have been made of children temporarily visiting a country again together with their parents; e.g. Hakuta (1974), Keller-Cohen (1979), Lanza (1990), or of children of immigrant parents planning to stay permanently (e.g. Wong-Fillmore 1976, Saville-Troike 1988a & b), focussing on various aspects of the children's language development or communication.

However, the above studies deal with children who have, in some way or other, had continuous access to their first language, and in that respect they differ from my work. A major part of the IA children do not have this access.

1.2 Previous research on international adoptions

When it comes to the social, emotional and physical development of the IA children a number of studies have been carried out in Scandinavia (Sweden: Bohman 1970, Hallden 1981, Andersson 1983, Cederblad 1983, 1991, Berger & Pihlgren 1986, Mercke 1988; Denmark: Pruzan 1977, R0rbech 1989, Kamm 1990; Norway: Dalen & Saetersdal 1988, 1992, Andresen 1992; Finland: Kvist, Viemero & Forsten 1989, Forsten 1990).

Extensive studies of IA children are currently being carried out in Holland (e.g. Verhulst et al. 1990a & b). At the Adoption Centre of Utrecht University a team of 15 researchers are working within the fields of social and developmental psychology (e.g. Hoksbergen, Juffer & Waardenburg 1987, Juffer forthc).

The linguistic development of IA children, however, has remained fairly unexplored. Only a few investigations have been carried out. (Sweden: Gardell 1979, Hene 1987a & b, De Geer 1990, Hene forthc; Norway: Berntsen & Eigeland 1986; Holland: Schaerlaekens, Huygelier & Dondeyne 1985, De Vries & Bunjes 1987, 1988, De Vries 1989).

1.2.1 Non-linguistic studies

The following studies have been carried out within the disciplines of developmental psychology, pediatrics and sociology. Some of the studies do however also comment breifly on the children's language performance or development. A11 investigations but the Bohman (1970) study on national adoption concern international adoptions.

Sweden
Bohman (1970) studied 168 *nationally* adopted children who were 10-11 years old at the time of the investigation. Different factors considered were the children's pre-placement experiences, their biological background, their health, school performance, adjustment to school and possible symptoms or behaviour disturbances as well as a number of background factors of the parents. The children were found to be significantly less well-adjusted in school than their controls, especially the boys. The adopted children also more often tended to suffer from inability to concentrate and from poor contact with friends. The disturbances were found to correlate with the quality of the relationship between parents and child and the adoption situation. The disturbed relationship was often caused by an uncertainty on the part of the adoptive parents in their attitude towards adoption.

Gunilla Hallden's dissertation (1981) gives a detailed picture of the emotional adjustment process of eight internationally adopted children at the age of 1-2,5. She treats the adoption as a conflict situation both for the children and for the parents. The children are, in the course of solving this conflict situation, found to go through three different stages of development originally defined by Mahler et al. (1975) to govern the development of children in 'biological' families. The first phase is that of disorientation - the child does not know which adult is the parent. He studies the adults around him in a manner that is characterized by a rigidity in facial gestures and motor activity. This period lasts during the first weeks after the adoption (in biological families it dominates the child's first 6 months of life). The next phase is that of differentiation - the child can now differentiate which adult is the parent. This period is characterized by regression and a demand for closeness from the child's side and the desire to explore the parent by climbing, clinging, pulling and handling her/him. This period starts after a couple of weeks in the adoptive family and lasts for about 4-6 months (in biological families between the age of 6 and 12 months). The last phase appears after 6 months in the adoptive family (in biological families at the age of three). Now the child starts to discover the environment in the safe belief that the parent will not disappear and therefore must not constantly be watched.

Hallden also makes some comments on the language development of the children. It is found that the children are very quiet at the start. Then parents and children together develop a non-verbal language. The parents, however, use their verbal language too, introducing important everyday things and phenomena to the children. Language development seems to be parallel to that of monolingual first language acquisition: babbling, single words, two-word utterances, and longer

utterances. One difference found is that the periods of single word productions and two-word utterances is much shorter than that of non-language switchers. Hallden also finds that language development is much slower than the emotional and motoric development.

The Cederblad study of 1983 included eight children who were all three years old when they came to Sweden. The children were often found to exhibit a number of adjustment reactions to the adoption, such as regression and/or signs of acute crisis (low frustration threshold, depression, aggressiveness, contact disturbances, etc.). Especially children who had experienced several separations and had many broken relations behind them showed the most serious reactions. Language was learned quickly and posed no problems except for the very first period of time, when misunderstandings were frequent.

Gunilla Andersson (1983) studied 154 children who had lived in Sweden for 2-5 years and were 5-12 at the time of the adoption. The investigation was conducted as a questionnaire to adoptive parents and concentrated on adjustment difficulties. It was found that 15% of the parents did experience the emotional relation and the quality of the attachment as a problem, and for 21% of the children the language development was felt to be a problem.

Gertie Berger & Inger Pihlgren (1986) investigated a sample of 30 children who arrived at 0-4 years of age. At the time for the investigation the children were 7-15 years old. 26 of the children were reported to have a 'good development', defined as doing well socially at school, having good relations with the closest environment and having a good self-esteem. 11 children were reported to have language problems and need remedial instruction. Problems could be poor vocabulary and word comprehension and learning and spelling difficulties.

Ann Mari Mercke (1988) studied problems that may arise during adolescence. Three children who had difficulties in their relations with their adoptive parents were studied. As a result of the adoption and its preceding separation(s) these children had never been able to establish a solid relationship with their adoptive parents.

Cederblad (1991) studied 84 children aged 11-18 who had all been treated in psychiatric clinics in southern Sweden and found that the most common reasons for psychiatric consultancy were contact disturbances (especially with the mothers), aggressivity, and asociality. It seemed to make no difference whether the child were the only child or not; neither whether possible brothers or sisters were adopted or non-adopted. Children who had experienced many separations before the adoption tended to be more asocial and have worse problems with relations. A high adoption age was established as the largest risk factor for the possible development of symptoms. It was, however, stressed that the study was a clinical one, and that in order to achieve more reliable generalisations an epidemiological study would be necessary.

Denmark

In Denmark, Vita Pruzan (1977) undertook an investigation of 179 children based on interviews with teachers and parents. At the time of the investigation the children were 8-12 years old and had been living in Denmark for two years. 82% were reported to speak perfect Danish. 14% had language problems of varying degrees. (For the remaining 4% - 6 children - the report states 'question not answered').

R0rbech (1989) interviewed 384 youths of 18-25 years about their adjustment in Denmark. She established that the children were well integrated in Danish society, living like Danish youths and feeling more Danish than e.g. Vietnamese. Only a few of them had ever experienced discrimination from people in their environment.

Kamm (1990) made very thorough interviews with four teenagers adopted to Denmark as small children in the effort to describe the kind of adjustment and survival strategies which these children use throughout their childhood and adolescence. She has found that all these children have actively been dealing with the difficulties they have met in their lives as 'black in a white society'.

Norway

A Norwegian study by Monica Dalen and Barbro Saetersdal (1988) concentrates on adjustment difficulties and emotional and social development of the children of 182 families. They also mention that the children may have certain language problems which are, however, 'difficult to identify'.

Andresen (1992) studied the behavioural and emotional adjustment of 151 internationally adopted children aged 12-13-years. The majority of the children were found to be well adjusted. Adopted children were more often found to be hyperactive than a control group of non-adopted children. Furthermore, adopted girls were in general better adjusted than adopted boys, and children from Korea showed less problems than children from other countries.

Dalen & Saetersdal's (1992) dissertation concerns the problems of the initial adjustment, school performance, and identity development of IA children from India and Vietnam. Some of their main findings were that school performance is governed by 'school language problems', i.e. problems with the language used and required in school as opposed to the everyday life and adjustment problems which have not yet been overcome. Adoption age only indirectly governed school performance, in that it was a predictor of school language problems. As to identity development, the IA children and adolescents of the study had a complex and complicated view of their own ethnic group and of other immigrants. The problem was not their appearance per se, but that their appearance differed from that of their parents and friends.

Finland

Kvist, Viemero & Forsten (1989) studied a sample of 14 internationally adopted children age 10-12 and compared them to 13 non-adopted Finnish children with

reference to self-image, self-ideal, ego-strength, and disposition towards aggression and anxiety. The adopted children considered themselves to be more original and independent. They had a more demanding self-ideal than the non-adopted children. They were also more apt to react with aggression but less apt to react with anxiety than the non-adopted children.

Försten (1991) investigated the socio-emotional adjustment of 34 internationally adopted children and 51 Finnish controls of 9-14 years. The children made self-reports on items such as behaviour, intellectual and school status, physical appearance, anxiety, popularity, happiness, assault, verbal aggressivity, indirect aggressivity, irritability, negativism, and suspicion. Significant differences between adoptees and controls were found on several specific items of all subscales except anxiety.

Holland

Hoksbergen, Juffer & Waardenburg (1987) studied 116 children from Thailand eight years after the arrival in the Netherlands with special focus on adjustment and attachment. In general the children are found to adjust well. The authors want to stress the importance of a thorough medical examination upon the child's arrival, the parents' acceptance of their parenthood being different from that of biological parents, and - perhaps most important - that the adoptive parents are well prepared before the adoption. They also point out that many adoptive children possess a very strong vitality and will to survive, which will help them in their adjustment process as well as in their future social and educational situation.

Verhulst et al. (1990a & b) undertook an extensive investigation of the adjustment development of 2,148 IA children aged 10 to 15 years and compared them to a sample of 933 non-adopted Dutch children. They found that the older the child at placement the greater the risks for behavioural/emotional problems and a low school performance. Adopted boys tended to become delinquent, hyperactive, and uncommunicative, whereas girls showed cruel, depressed, or schizoid syndromes. Verhulst et al. (1992) examined the influence of early neglect, abuse, and the number of changes of caretaking environment of the same sample and found that this increased the risk for later maladjustment. It was also stressed that a majority of the children seemed to function well according to parental reports.

Verhulst et al (1990c) performed a smaller clinical study of 132 14-year-old international adoptees and found the prevalence rate of psychiatric disorders to be somewhat higher for this sample than for the general population, characterised by antisocial behaviour, poor relationships, and problems of affect.

Juffer (forthc.) has studied the attachment process between parents and children in international adoptive families. Her findings are that, at least for children placed before the age of five months, there seem to be no particular risks of developing insecure relationships, even though the biological bonds and the first

important hours of life are missing. Also, the rate of sensitivity of adoptive parents is a strong predictor of the relationship between parents and child later on.

1.2.3 Linguistic studies

Sweden

Some studies in non-linguistic disciplines contain more detailed reports of the language situation or language development of the IA children:

Gardell (1979) studied 207 children who were 10-18 years at the time of the investigation and had lived in Sweden for at least five years. The results of this investigation were that 47% of the children had language deficiencies. The term language deficiency is vaguely defined as follows (my translation):

> "Certain deficiencies have a tendency to appear only when the child is in the higher grades in school (age 12-15), when new demands are put on their language command. We call these additional deficiencies *special language deficiencies* in order to separate them from the more extensive and severe deficiencies that certain children have already from the arrival. These later deficiencies are called *large language deficiencies."*
>
> (Gardell 1979)

Deficiencies are mainly of three kinds:

1. Unexplicable and, for each child, different gaps in the comprehension of common and basic words.
2. Bad motivation when it comes to listening to and understanding teachers who lecture to the pupils at this school level.
3. Writing difficulties, both with regard to sentence composition and word inflection.

Difficulties thus often arise in the higher classes at school. The children may well have a seemingly perfect verbal language and possible deficiencies are covered by a quick speech stream. This problem seems to be similar to that presented by Cummins (1979). He argues that there are two constituents of language proficiency. One of them is the *basic interpersonal communicative skills* (BICS), which concerns basic vocabulary, oral fluency, and command of idioms. These are the language skills we use in everyday, concrete situations. The other constituent is the *cognitive/academic language proficiency* (CALP), which belongs to a more abstract language use, i.e. the use that will be required in higher classes at school. Here we find refined grammatical rules and the part of the vocabulary that contains synonyms. These ideas have also been expressed by Skutnabb-Kangas (1981) under the terms *ytflyt* (= surface flow) and *tankeverktyg (-* tool of thought). Even though it is argued that the problems of the IA children are different from the problems of immigrant children or Swedish children with language problems, it is probably the same mechanisms that are disturbed.

It was also found that difficulties increase with a higher adoption age, an inexact birth date, insufficient or no information on a child's background, periods in orphanage, a weak physical health on arrival, and if the child showed fear in the new environment. Children adopted at an age of 1,5-3 years were also more likely to develop language problems than children adopted both at younger and older ages. This, the author proposes, could be a consequence of the fact that by 18-24 months the child starts to think in terms of concepts and symbols. These are based on a passive vocabulary that the child has acquired in interaction with his environment. The child is just about to start using the words actively, and a break-off at this point would of course have a negative influence on the language development.

Nothing is said, however, about the proportion of difficulties in Swedish non-adopted children. The figure 47% appears to be very high, and it would be interesting to see what the figure would be for a Swedish population, given that the definitions of language problems were the same.

The only investigations carried out by a professional linguist are the ones made by Birgitta Hene. She has been studying IA children since 1985. Two reports have been published (1987a, 1987b). The first (Hene 1987a) is an interview investigation with 70 now grown-up adoptants. The interviewees are asked to describe their language situation, language command, and anything they can remember from acquiring Swedish.

In the second study (Hene 1987b) parents and teachers have given their opinions of the language development of 48 children aged 2-19 who have been living in Sweden for three months up to 15 years and whose adoption ages were from 6 months up to 10 years. Problems or difficulties reported are:

1. A considerable difference between IA children and non-adopted Swedish children concerning language command depending on the communicative situation. In informal situations there are less problems.
2. A significant use of non-verbal communication.
3. Difficulties in awaiting one's turn in conversation.
4. Difficulties in telling stories in a proper chronological order as well as in making the story comprehensible to the listener.
5. Difficulties in understanding questions and/or instructions in class.
6. Uncertainty regarding basic space and time concepts as well as the meaning of many everyday words.
7. Uncertainty of grammatical gender, and sometimes also verb inflection.
8. Pronunciation/articulation difficulties.
9. Spelling difficulties.

The above problems apply for children of all ages, but it seems that in many cases we again encounter the BICS vs. CALP phenomena. I think we can safely

that in Swedish non-adopted children, as well as among immigrant children, may encounter many of the problems mentioned above.

De Geer (1990) is a pilot study of the present one. Two children adopted at 1:10 are studied during the first three months following their arrival in Sweden with special focus on channels of communication and strategies used in communication. The children are found to concentrate on different main channels of communication during this initial period and to mainly use communicative strategies. Comparisons have been made with one Swedish non-adopted child.

Hene (forthc.) studied 24 IA children aged 10-12 and compared them to 24 Swedish-born children, focussing on language comprehension and production, both oral and written, and with special emphasis on vocabulary and narrative ability. Her major findings were that the differences between IA and Swedish-born children are very marginal. Considering their relatively shorter time of exposure to Swedish, the IA children are performing very well. Where they do show a weakness, however, is in comprehension, especially of lexicalised phrases and the literal meaning of words. Production seems to be less sensitive and all children perform similarly. Hene suggests that instead of language deficiencies of language problems the differences are due to language delays in the IA children.

Norway

Mari Berntsen & Ingebj0rg Eigeland (1986) presented a report on the language switch of IA children in Norway. Parents of 241 children responded to a postal inquiry with questions concerning their children's language development. Among their findings were the following:

1. 25% of the children had or had had language problems.
2. Factors that influenced language development negatively and which often coexisted with language problems were: adjustment difficulties at the time for the adoption, frequent changes of living arrangements in the home country (foster home, hospital, orphanage etc.), adoption age (children adopted between 2-4 years of age were more likely to develop language problems than others).
3. Factors such as proficiency in the original language, health status on arrival, whether or not parents could speak the child's original language seemed to have little or no influence on language development.
4. Language development was influenced in a positive direction by a frequent use of non-verbal communication, both by the children and their parents. Children who started to understand and talk Norwegian early (within four months) were less likely to have language problems later on in their development. Being the only child in the family also seemed to be a positive factor.

There are no comparisons made with Norwegian non-adopted children.

Holland

Schaerlaekens, Huygelier & Dondeyne (1985) undertook a postal inquiry investigation of 118 Dutch children in order to describe the process of switching languages and to identify possible risk groups among adoptive children. Their findings were the following:

1. Younger children (adopted under 3 years of age) have more initial adjustment problems than older children. Silent periods, communicative problems (rage outbursts, crying, having to depend entirely on non-verbal communication) and other emotional reactions were more frequent for children adopted between 2 and 4 than for older children. This was explained by the fact that children of 5 and older have developed a metalinguistic awareness and are therefore better prepared to accept language difficulties.
2. Older children are more likely to develop language problems later on, since they have less time to learn before starting school.

De Vries & Bunjes (1987) tested 118 children adopted from Korea, India and Columbia at 0-4 years, first in preschool and then in the first form of elementary school. The tests did not reveal any special differences with regard to vocabulary, reading, or writing skills. 13% of the children were reported to have problems. These 13% were then examined further (De Vries & Bunjes 1988) and were found to have been reared in orphanages or to have been ill or suffering from anxieties when arriving in the Netherlands. A further factor the children had in common was that they were an only child or had only one sibling.

De Vries (1989) studied 36 children from Korea who had reached the age of 13-14. They were found to make more odd mistakes than their classmates and although the differencs were statistically significant, the differences were judged to be too small to be psychologically relevant.

The above studies deal with the present language status of children who have been living in their new home countries for several years. Nobody has yet, to my knowledge, undertaken a longitudinal study starting with the period immediately following adoption.

2 Dimensions of interaction and communication

This chapter consists of two parts. The aim of section 2.1 is to give a brief overview of the communicative development of non-adopted children, to discuss the questions of separations, the attachment process, and the language switch and their possible consequences for the linguistic and the communicative development of the IA children.

Section 2.2 will present a number of interesting aspects of the communication of IA children which have been chosen for investigation in this study.

2.1 Interaction and communication

In order to avoid any terminological confusion it is necessary to define the concepts of interaction and communication. In this thesis I will use the term *interaction* for all behaviour performed by the members of a dyad, in this case a mother and a child, whether or not intentional. To be *communication,* on the other hand, the behaviour must have an intention.

Then, what is intention? Newborn babies are found to prefer the human face over objects (Trevarthen, 1979). Mothers and babies from very early on do engage in communication. Communication is performed by gaze, movements, and to some extent vocalizations on the child's behalf and by gazing, smiling, movements, and of course verbal language from the mother already from the first month of the child's life. This communication is characterised by the mother assigning some intention and responding to almost any child behaviour - she treats her child as a proper dialogue partner (e.g. Brazelton, Koslowski & Main 1974, Bateson 1979, Snow 1977, Trevarthen 1977, 1979).

It is now widely accepted within child language research that the infant's interactive behaviour, in force of its *intentionality, as assigned by his mother,* should be viewed as communication (e.g. Junefelt 1987, Brumark 1989). I will adopt the view of Junefelt (1987:8), defining communication as *'whatever signals that are apprehended by either of the parties as some kind of message'.*

This study represents the interactionist approach to language acquisitional theory, i.e. that language is acquired in interaction with the child's social environment (e.g. Bruner 1983, Gleason and Weintraub 1978, Bates et al. 1979).

2.1.1 Mother-infant communication

Communication between mother and child exists already when the child is still in the mother's womb (de Chateau 1989). The child reacts to noises (Wiberg 1990) and to tactile stimuli (Graves 1980) from the outside. Investigations made by ultrasound have shown that the foetus blinks his eyes to sudden noises from outside (Wiberg 1990). Parents frequently report that they sing or speak to their unborn children or play music for them, and that the children appear to recognise the stories (De Casper & Fifer 1980) or tunes (Lagercrantz 1989) when told or played for them again after birth.

Newborn babies, during their first hours of life, are reported to prefer the human face over other forms (Goren et al 1975) and the voice of their mother before another woman or the father (De Casper & Fifer 1980). Already at birth the infant seeks eye-to-eye contact with his mother, responds by smiling to smiling (Condon & Sander 1974), and imitates various adult facial gestures, i.e. I mouth opening and lip or tongue protrusion (Meltzoff & Moore 1977, 1983, Condon & Sander 1974, Heimann & Schaller 1985). These movements can, in addition to hand movements and facial expressions, be seen as precursors of verbal expressions (Trevarthen 1977, 1980).

Over the child's second and third months of life the communication with the mother will reveal more and more a pattern of rhythm, giving the impression of turntaking. Mother and infant make their utterances, or communicative contributions, in turns - they are performing a *protoconversation* (Bateson 1979).

According to the findings of Trevarthen (1980), a child will develop certain abilities during its first year of life when it comes to communicative competence. A neonate is able to direct his attention towards an object - he is showing the first signs of *subjectivity.* Subjectivity, according to Trevarthen (ibid.), is the ability to 'use external objects to satisfy perception exploration, manual prehension ... and to be a coordinated subject, motivated to act with purpose in relation to the world outside'. However, the infant is also able to 'get the attentions of a human partner' (ibid.) - to interact (with his mother in the first place) - and this capacity is called *primary intersubjectivity.* The infant is reported to be very sensitive to the variations or disturbances in the expressions of the partner (Murray 1979, Trevarthen 1980).

When the child is around 8 months old a further behaviour can be observed - the child can now share his interest in an object with his mother and communicate about it in a reciprocal, cooperative way. He is 'combining communication about action on objects with direct dyadic interaction' (Trevarthen & Hubley 1978).

The child is now capable of *secondary intersubjectivity.* This capacity should be regarded as a prerequisite for language learning (Sbderbergh 1979).

At the age of around 8 months the child will be able to express intentionality in force of the secondary intersubjectivity and with the assistance of his mother's *dressing up his nonverbal behaviour in words.* Gestures and/or vocalisations have been found to express different intentional functions (Carter 1979). These functions will develop towards more refined and word-like vocalisations, with or without combination of gestures, in the direction of proper words and the eventual drop of the gestures (Halliday 1979). The child starts to talk.

2.1.2 Early experience in internationally adopted children

In the light of section 2.1.1 I would like to briefly discuss some easily neglected but extremely important findings relating to separations and the importance of early contact between mother and child, i.e. what are the consequences if the child does not grow up in close contact with his mother or is separated from her some time during his first year(s)?

Separation studies

Compared to non-adopted children, adopted children (nationally or internationally) do in many respects get a very different start. Currently it is widely believed that experiences during the first three years will determine the development of the entire lifetime. John Bowlby (1953, 1969, 1973, 1980) studied children who had experienced a separation from their mother (because of a period of hospitalization) and found that these children would suffer from *maternal deprivation.* The deprivation was manifested through anxieties, excessive need for love, weight loss, a susceptibility to infections, powerful feelings of revenge, guilt, and depression. Maternal deprivation is characteristic of babies who have had a happy relationship with their mothers up to six-nine months, and then lose her without an adequate substitute. The depression experienced is believed to cause development disturbances. Bowlby comments: 'Some observers, however, are now definitely of the opinion that damage is frequently done by changes even as early as three months' (Bowlby 1953, p. 25). It was argued that the reactions against the separation were less violent if the child was offered an adequate substitute mother.

Rutter (1972) distinguishes between *deprivation* and *privation.* Deprivation means loss of something essential, privation lack of it. The deprivation is a loss of something you have had earlier access to. This is what happens to a child who **is** taken into a hospital and is separated from his mother because of this. Privation is the effect of institutional care (a common background for IA children), and its effects were believed to be even worse than those of deprivation.

Against the discussions of Bowlby and Rutter we could argue that IA children *are* generally offered an adequate substitute mother with a deep emotional

committment (Cederblad 1983) when they eventually come to Sweden. It is often the case, however, that the children are separated from the biological mother some time during early infancy to be placed in a foster home or orphanage awaiting international adoption. In some cases they will be moved between different places and are thus experiencing several separations.

The importance of early contact

Several studies have stressed the importance of early postpartum contact between mother and child and argued that this contact can have both short-term and long-term effects on the development of the future contact between mother and child (e.g. Klaus &Kennell 1976, Hales et al 1976, Carlsson et al 1978, 1979, Svedja et al 1980, O'Connor et al 1980). Klaus & Kennell (1976) and Ringler et al (1975, 1978) found that skin-to-skin contact immediately after birth has an effect on maternal attachment behaviour and on the linguistic behaviour of both the mothers and children. Wiberg & de Chateau (1982), de Chateau & Wiberg (1984), Wiberg et al. (1989) and Wiberg (1990) have shown that early postpartum contact has a favourable effect on the emotional and social behaviour of the mother towards her child. Even an aspect such as maternal linguistic/communicative behaviour has been found to be promoted by early contact (Soderbergh 1982).

As Madeleine Kats (1990) points out, it is therefore astonishing that the common opinion is that adopted children will 'catch up' with their Swedish biologically born peers. It is also generally believed that the younger the child at the time of adoption (= separation) the lesser the damage to its development. Again Kats (1990) argues the opposite - the younger the infant, the more sensitive to a separation.

We may also contrast Kats (1990) with the findings of e.g. Hene (1987b), Cederblad (1991) and Juffer (forthc), which show that in spite of a background more or less severely deprived of a continuos emodonal relation together with the adoption and its total change of their lives, most IA children grow up to be mentally healthy, well-attached to their adoptive parents, and with a good, if not perfect, command of their new language. Some children are even more 'durable' than others, and are often referred to as 'Dandelion' children (Cederblad, personal communication January 1991). They are, for unknown reasons, better equipped to meet with the strains put on them later on in life.

The importance of a sensitive mother

While early contact may play an important role for the child's future development, we certainly cannot neglect the rest of the time the mother and child will spend together. People grew up in good communication and well attached to their mothers long before hospital routines changed towards longer post partum contact; children are delivered through C-sections or deliveries which are complicated in other ways that will prohibit the early contact immediately after birth. In the Ringler et al. (1975, 1978) project, mothers and children were not only granted extra contact immediately after birth - they were also allowed further extra time together than the normal hospital routine

prescribed during their stay in the hospital. It is true that the infant is extremely alert immediately after birth and that this is a very good occasion to establish contact between mother and child, but this alertness returns several times during the infant's first days.

Juffer (forthc.) argues that if early contact were to decide the child's possibilities of establishing a secure attachment to his mother, then adopted children would of course have no chance.

The forming of a secure attachment between mother and child is a *process* which goes on during the child's first year (Bowlby 1969), and which involves several phases. During the first phase, the first weeks of life, the infant prefers people over objects, but no special person over another. The second phase lasts from the age of 6 weeks to six-eight months, and is the period of time when the child orients towards specific persons, but makes no evident preference for the mother. During the third phase the child shows an increasing preference for his mother and a fear for separation from her. At the age of one year the child will have formed an attachment to the mother, which can be either secure or insecure.

With a *sensitive mother,* i.e. a mother who *sees and feels her child's signals, interprets them correctly, and responds to them in an adequate and immediate way,* it will be easier for the child to achieve a secure attachment (Ainsworth et al. 1978).

Juffer (forthc.) has found that it is possible for adoptive mothers and children to achieve a secure attachment of the kind that we find in 70% of the cases in a normal population if the child is adopted before the age of five months. Adopting a child who is in the phase of clear-cut attachment can involve a risk for the forming of a new attachment (Juffer forthc). If adopted after the attachment phases are over, the child will take the experience of his first attachment with him to his adoptive parents and repeat the process with them (Juffer, forthc). This can - if the child is insecure - become a very sad experience.

Juffer (forthc.) further argues that there must be a different and probably more difficult attachment process going on between adoptive mothers and their children, since the children are much older and have knowledge of a different world because of their earlier experience. An adoptive mother has the handicap of not having been prepared for attachment by nature through the hormone reactions following pregnancy and delivery. She has no access to the major part of the child's history, a history which would also be hers had the child been her biological child.

At this point it seems desirable to introduce the fathers into the discussion. After all, children do not grow up in dyads, and surely their fathers must play an important role in the attachment process, too. Mothers have a certain advantage in that they are the ones actually giving birth to the child and breastfeeding it. They are probably also better prepared than the fathers through hormonal

processes. Despite this disadvantage, the fathers will play an increasing role in their children's development, and maybe especially in the case of an IA child, where both mother and father are lacking 'nature's preparation', I think it is important to stress the role of the fathers. In fact, it turned out that the adoptive fathers of this study spent a considerable amount of time with their children, as they took a large proportion of the family's parental leave (cf. chapter 6). For traditional reasons this study concentrates on the interaction between mothers and children, but it must be emphasized that it could just as well have been a study of fathers and children.

Furthermore, as I see it, the attachment process will also be governed by the parents' background. Their earlier experience will, at least to some extent, rule their behaviour towards the child. What were their childhoods like, how were they communicated with, and how did people around them communicate with each other? What has, by experience, become their opinion on children's communicative needs, means, and skills?

I accept the thought that a continuous, stable contact - albeit starting as late as when the child is two years old - with sensitive parents as described above, will compensate for much of the child's probably insufficient start and promote the new attachment process. Whether or not it will also promote the child's communicative and possibly also linguistic development is still a matter for discussion.

We know that the majority of the IA children do not get the kind of start that most biologically non-adopted children do, as described in 2.1.1. However, perhaps it need not necessarily be the case that an insufficient emotional start will lead to poor linguistic or communicative performance. It could well be that a good performance is some kind of compensation for a lost contact. I have met or been told about several IA children who, in spite of the most frightening background, have developed a perfect command of Swedish. Likewise we meet Swedish children, who in spite of growing up with mentally ill mothers, develop a perfect mental health as well as a good command of the language.

2.2 Interaction in IA mother-child dyads

Language is learned in communication. In order to study the linguistic and communicative development between IA children and their mothers, I decided to start from the very beginning - immediately after the adoption - and to follow the chiluien during their first two years in Sweden. I wanted to focus on features that appeared to be common and/or typical for these dyads. A number of questions needed an answer:

1. *What different means/channels of communication are used and how? How do the proportions between different channels develop ? What does communication in IA dyads look like? How do the children and their mothers communicate?*

2. What strategies are used by the IA children and their mothers in order to maintain communication, to learn/teach language, etc. ? Do different strategies appear in any special order?

3. *How soon do adoptive mothers become responsive toward their children's communicative behaviour? To what extent do they respond to their children and how? How does this behaviour develop over the two years and how (if at all) does it differ from that of Swedish mothers with biological children? How do the children develop their responsiveness? Furthermore, is it possible to explain certain maternal behaviour in terms of child behaviour and vice versa?*

4. *Whit respect to verbal language, to what extent do the children try to use their original language? Furthermore, how does their verbal language develop? How soon, if at all, do they reach the level of their age-matched Swedish peers?*

5. *Is it possible, based on different channels of communication, responsive behaviour, and strategic behaviour, etc., to identify different interactive profiles among the children and their mothers?*

The above questions will be treated in the following sections.

2.2.1 Channels and levels of communication

Question one: *What different means/channels of communication are used and how? How do the proportions between different channels develop? What does communication in IA dyads look like? How do the children and their mothers communicate?*

Different channels of communication

To start with the first two questions - how communication is performed in terms **of** different channels of communication, etc. - we can note that one expected, common, and typical feature of the interaction of internationally adopted children is the use of nonverbal communication. Nonverbal communication plays an important role in mother-child interaction (McTear 1985, Soderbergh

1991) and especially so when the child is adopted and does not yet speak the new language (De Geer 1990).

Following Linell & Jennische (1980) we can draw the following sketch over the different signals used in human communication:

Figure 2.1 Verbal and nonverbal communicative signals (from Linell & Jennische 1980).

	NONVOCAL BEHAVOUR	VOCAL BEHAVIOUR
NONVERBAL BEHAVIOUR	nonvocal signals (gaze, gestures etc.)	nonverbal characteristics (variations in pitch, tempo, voice quality, etc.)
VERBAL BEHAVIOUR	sign language of the deaf	speech segments (phonemes), prosodie features, grammatical structure

As from Sôderbergh (1982), followed by Junefelt (1987), Hellspong (1988), and Brumark (1989), it has become a 'Swedish tradition' to divide the non-verbal signals into vocal and somatic as follows:

1. The *vocal verbal* channel, which covers all spoken verbal language.
2. The *vocal nonverbal* channel, i.e. communication signalled by the voice (non-words as well as qualitative aspects like tone, pitch, and stress lacking linguistic function).
3. The *somatic nonverbal* channel, consisting of communication signalled by face, body and posture.

A fourth channel, the *somatic verbal,* has been identified to account for the sign language of the deaf.

In the following discussion the vocal verbal channel will be referred to as the *verbal channel,* the vocal nonverbal channel as the *vocal channel* and the somatic nonverbal channel as the *somatic channel.* Furthermore, the distinction verbal/vocal/somatic will be used only when it is necessary to distinguish between vocal and somatic signals. Otherwise, the terms verbal and nonverbal will be used.

Different levels of communication

We also asked what communication is like in IA dyads when compared to non-IA dyads. One interesting aspect of the answer to this question is that communication can be regarded as *performed on different levels* when it comes to the *degree of participation and attention* showed by the partners. The highest level, level 1, with the highest degree of attention and participation, is found in interaction with an unbroken chain of exchanges of ideas, thoughts, opinions, etc. Communication on this level can be either about the here-and-now situation or about something absent - in distance or time - as in (1) where a previous visit to the Skansen Zoo is discussed. The main characteristic of this level is that there is a constant exchange of responsive turns, i.e. each turn ties on to the partner's previous turn.

(1)
Child: Juan
Age: 2:3, 6 months after adoption

Child:		*Picks up toy elephant*
	nant (Child version of elephant)	
	nant	
Mother:	en liten eleFANT (a little elephant)	
C:	nae: tu: (no big)	
M	näe den va väl Liten	
	(no it's small, isn't it?)	
C:	nae: tu:	
M:	du har ju sett STOra elefanter	
	(but you've seen big elephants)	
	kommer du iHÅG var vi såg STOra=	
	=elefanter?	
	(do you remember where we=	
	=saw big elephants?)	
C:	mamma pappa mi (mommy daddy me)	
M	näe PAppa va inte me å titta på=	
	=elefantema	
	(no daddy didn't come and see=	
	=the elephants)	
	var titta vi på eleFANtema nånstans?	
	(where did we look at the elephants?)	
C:	mamma pappa mi	
M	näe PAppa va inte me	
	(no daddy wasn't there)	
	DU ... å JA va ju ... på SKANsen=	
	=å titta på elefanterna	
	(you and I were at Skansen=	
	=to look at the elephants)	
C:	no papa kankic (no daddy Skansen)	
M:	näe pappa vi ju i SKOlan å arbetade	
	(no daddy was at school working)	
C:	tita kankic (look Skansen)	
M:	kommer du iHÅG va som hände me=	
	=eleFANten/va gjorde FARbrorn me elefanten?	
	(do you remember what happened to the=	
	=elephant/what did the man do to the elephant?)	
C:	kiga (pee)	
M:	eleFANten kissade å va gjorde farbrorn DA?	
	(the elephant peed and then what did the man do?)	
	pause 3 sec.	
	då tvätta han ju GOLvet	
	(then he washed the floor)	
C:	kica	
M:	ja farbrorn tog BORT kisset	
	(yes the man took the pee away)	
	lukta de GOTT hos elefanterna	
	(did it smell nice at the elephants'?)	
C:	ja (yes)	
M:	TYCKte du de? (did you?)	
C:	nä (no)	

(A 12)

One can also discuss something which is present here and now - as in (2):

(2)
Child: Juan
Age: 2:10, one year after adoption

Child:		*Picks up dolls' toilet*
Mother:	e där MER? (is there any more?) men va e DE? (but what's that?)	
C:	toaLETT (toilet)	
M	en toaLETT e de ju (well it's a toilet) så FIN den va (how nice it is)	
C:	ja!	*Puts toilet down*
Ml		*Picks it up again*
	har du SETT vilken FÄRG de= =e på den? (do you see what colour it is?)	
C:		*Takes toilet again*
IVI:	va e DE för färg? (what colour is that)	*Points*
C:	rosa (pink)	
M:	rosa ja/va e de ANdra för färg? (pink yes/what's colour is the other one?)	*Points*
C:	vit (white)	
VI:	VIT å rosa e den (white and pink it is)	

(A18)

It should be emphasized that a high interactive level need not be verbal. Nonverbal participation also qualifies for level 1 classification:

(3)
Child: Juan
Age: 1:10, two weeks after adoption

Mother:	titta nu kommer HUNDen ti dej (look here comes the dog) godagoDA...godagoDA (hello-hello...hello-hello)	*Walks toy dog towards boy* *Dog 'sniffs' at boy's feet*
Child: M-	ska den DRICKa Ute? (does it want a drink?)	*Offers pot to dog*
	ÅÄÅ den dricker VAtten...Agua (ooo he's drinking water... agua) nämnarn...agua...nämnarn (yumyum...agua...yumyum) V Ätten tycker hunden om (the dog likes water) han e TÖRsti (he's thirsty)	*Makes dog drink, making noises*
C:		*Offers pot again*
M:	nämnarn (yumyum) umm namnamnamnamnam ååå	*Makes dog drink*
	så säjer den TACKtack (and it says thank you) TACKtack TACKtack	*Makes dog sniffat boy's feet* *Dog sniffs* *Dog sniffs*
C: M	(LAUGHS) TACKtack	

	så (so) nu vill KATTen också ha vatten (now the cat wants water too) katten vill OCKså ha vatten (the cat wants water too)	*Takes cat*
C: M	namnamnamnamnam åDU! (hey you!)	*Offers pot to cat*
	DOCKan e också törsti å vill= =ha vatten (the doll is thirsty too and wants= =water)	*Offers doll towards boy*
C:	nan ana	*Makes the doll drink from the pot*
M:	namnamnamnam ja	

(A2)

On the level below, level 2, we find situations in which the child is performing verbal or nonverbal utterances and the mother takes the role of an interpreter by commenting on the child's behaviour, but not adding any (at least not many) new thoughts or ideas. The child is not overtly communicating, but is rather occupied by his own doings. This kind of situation is typical of the period when the children have just recently arrived in Sweden and do not have much verbal language and when the mothers have not yet learned to interpret their children's signals.

(4)
Child: Juan
Aee: 1:10, immediately after adoption, first recording.

Child:		***Takes dolls' pacifier in his mouth***
Mother: C:	**NAPP ja (pacifier yes)**	*Laughing* *Takes bottle in his mouth, looks at it, shakes it*
M:	nämnarn (yumyum) namnamnam (yumyumyum)	*Drinks more*
C:	tide	***Whispers. Shakes bottle,*** *drinks*
M C:	**ja (yes)**	***Shakes bottle, drinks more***
M	va de GOTT? (was it good?) smaka de GOTT? **(did it taste good?)**	
C:		*Feeds doll*
M	ska BEbisen få lite? **(is the baby having some?)**	

(Al)

On the third level one of the partners is passive. The child may e.g. be playing and talking while the mother is watching and listening. We can also find the opposite situation, where it is the child who is watching or listening to the mother. The situation has the character of a monologue, verbal or non-verbal, since there are few speaker shifts. From the member of the dyad who is watching the communicative contributions we can only expect back-channel items. In (5)

the mother is not taking an active part in the communication, but she is wai the boy all the time.

(5)
Child: Guillermo [0:8]
Age: 4:0

Child:	öppna DEN (open it)	*Opens lid of toy piano*
		Plays
	va har vi MER? (what more have we got?)	*Looks into bag*
	här (here)	*Reaches into bag*
	titta (look)	*Takes something*
	de här hör TILL… (this belongs to...)	*Holds table*
	ett BORD (a table)	
Mother:	ja (yes)	
C:	ett BORD (a table)	*Puts it down*
	de kan vi lägga TALLrikarna på bordet	
	(we can put the plates on the table	*Takes plates*
	så (so)	*Lays table*
M:		*Turns boy, in order to get better position for camera*
C:	(...)	*Reaches into bag*
	allt som här ... E här (...)	*Reaches into bag*
	(everything here ... is here (...))	
	de HÄR måste ...(this must...)	*Takes something*

(D2)

(5) can be said to illustrate a kind of 'resting' level used in all the dyads, both by mothers and children, however not for any long periods of time.

All these levels are present in the interaction in all dyads of the study. In all dyads we find sequences with the highest degree of participation, but none of the dyads stays on this level during a whole recording. Instead, sequences on level 1, with a high participation degree, are interrupted by sequences on level 2, mothers' interpretation, or on level 3, a more or less passive watching by either of the parties. It seems as if engaging in dialogue is a rather exhausting activity, so the other kind of activities are used as more or less active pauses in the communication to gather new strength in order to start a new episode of dialogue. Level 2 can be expected to be used in early communication, whereas the use of level 1 is dependent on a higher linguistic and communicative proficiency and therefore should develop over time. Level 3, the resting level, will probably be used at all stages in the children's development and is indeed found in adult conversation as well.

2.2.2 Strategies of interaction

Question two: *What strategies are used by the IA children and their mothers in order to maintain communication, to learn/teach language, etc. ? Do different strategies appear in any particular order?*

When two people who do not know each other and furthermore do not speak each other's languages meet and start interacting we may expect them to face

communicative problems. In this case, with mother-child dyads, one of the persons - the mother - is superior to the other - the child - with regard to both linguistic and communicative skills and experience.

The tasks of a second-language learner
According to Klein (1986) a second-language learner has to face two tasks: the communicative task and the learning task. These tasks seem to be valid also for an adopted child:

"...to utilize his actual and (for a long lime) quite limited repertoire in an optimal fashion, in expressing himself as well as in understanding others *(his communicative task),* and

lo approximate to the target language - i.e. the language as used by the environment *(his learning task)".*

(Klein 1986:17)

These tasks will also apply to an IA child in interaction with his adoptive mother. First, he must do his best to communicate - to make the mother understand what he wants to say and try to understand what she is telling him. Second, at least one of them must learn the other's language - and in a majority of the cases the child is supposed to learn the mother's language.

In addition to the communicative and the learning task, I would argue that there is a third one. It is not only the matter of giving and taking messages, or of learning a new language. The learner also has to make an effort to create a 'togetherness' and a good atmosphere for communication. This I have chosen to call *the social task* (De Geer 1990).

Strategic behaviour
In order to carry out the three tasks the learner makes use of different strategies. A strategy is will be defined here as *a conscious or unconscious adjustment of one's communicative behaviour with the aim to perform one of the three tasks* presented above.

It is important to communicate, and in order to communicate you must be able to make yourself understood and you must understand others. No doubt it is important to learn to speak the language too, but being able to communicate here and now, with whatever means, comes first. Or, as pointed out by McLaughlin (1984) in discussing newly arrived Spanish-speaking children in USA (Lily Wong Fillmore's 1976 study): "Children's motivation to speak is extremely high in such situations, otherwise they are kept out of the interaction - something most children will do anything to avoid, even speak a new language".

Communicative strategies are employed by a second language learner in order to compensate for missing competence (Tarone 1983). Faerch and Kasper (1983) stress that strategies can be used both consciously and unconsciously. Their definition of a communicative strategy is: "*...communication strategies are potentially conscious plans for solving what to an individual presents itself as a problem in reaching a particular communicative goal".* It is also argued by

Corder (1983) that we must keep separate the productive and receptive communicative strategies.

The communicative task is aided by *communicative strategies* in order to facilitate interaction. *Production strategies* are used towards your partner in order to make yourself better understood and *perception strategies* are used to better understand your partner. Communicative strategies are immediate in their character, in that they are used to 'rescue' a specific situation. The speaker concentrates totally on conveying the contents of the message.

Not only understanding and the communication of messages is aided by strategies, however. Tarone (1983) also mentions the learning strategy - which is motivated by the desire to learn the target language.

The language learning task is carried out by *language learning strategies.* You have to analyse sentences, words, and morphemes etc. in order to learn the words and grammar of the language. In doing so you may use language *analysing strategies*[1]. You must also deal with the mere acquisition, the storing of language units in the memory - *acquisitional strategies.* It is important to recognize the difference between the analysing work and the actual memory work, since you may well remember phrases and words without having analysed them properly. One of the boys in my study, after two months of stay in Sweden, started to add a suffix '-ja' to many words - 'kattja, bilja, husja', etc., which was a result of the unanalysed phrases 'kattja, bilja, husja' (=cat yes, car yes. house yes) as used by his parents as confirmation when he had named the things.[2] Language acquisition strategies are used in order to remember what you hear. Both kinds of language learning strategies, the analysing and the acquisitional, are used internally and are not partner-oriented. Furthermore, they are used in a long-term perspective. Here, the speaker focuses on the linguistic/orm of the message.

Both communicative strategies and language learning strategies can be expressed on different linguistic levels - phonology, morphology, syntax, lexicon (Tarone, Cohen & Dumas 1983) and, I would like to add, paralinguistic features (e.g. vocal characteristics such as speech tempo, stress patterns, etc.). Furthermore, the strategies are performed as different modifications of the target language, such as transfer, overgeneralization, paraphrase, language switch, avoidance, etc. (ibid.). Here we would expect to also find repetition, imitation and switch to non-verbal communication, especially when studying mother-child dyads.

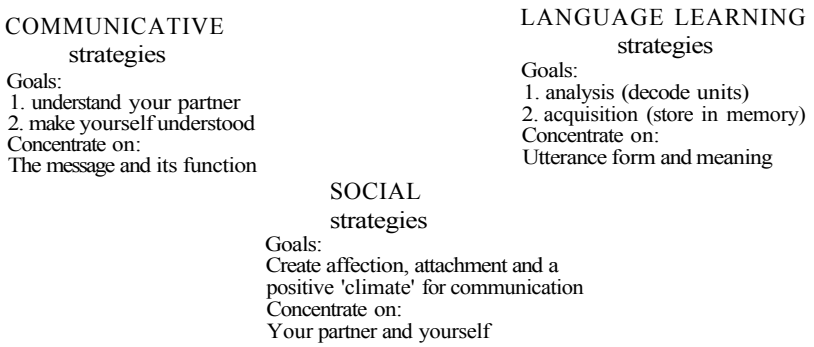
[1] The analysing strategies refer only to this kind of overt behaviour and should not be confused with the phenomena such as e.g. Slobin's (1973) Operation Principles, something which is also stressed by Slobin (1985).

[2] This kind of 'mis-analysis' has been widely reported in both first and second language acquisition both with children and adults under names such as 'chunks', 'routines', 'formulaic speech', etc. (c.f. Wong Fillmore 1976, Vihman 1982, Gleason 1982, McLaughlin 1984, Klein 1986).

In carrying out the third and social task *social strategies* are used to create a good climate for the interaction: to show that both parties are good friends. It could be argued that this is a communicative strategy. However, communication is not facilitated by the fact that the mother caresses the child's cheek or gives him a kiss. The caress or the kiss makes the child feel good - a good climate is created. Furthermore, no matter how much you kiss somebody, this will not make him or her understand your message better (unless the message is T love you'). I have thus chosen to treat the social strategies as a separate group, used when one is cognitively mature enough to recognize and respond to other people's emotional needs. What you need to concentrate on is namely your partner. This is something you learn with increasing maturity. It does, however, play an important role if you are a child and suddenly find yourself among new people. Something very striking about newly adopted children is their use of eye-to-eye contact. Some of the children are very anxious to keep eye-to-eye contact with their mothers, and I, as a stranger in the home, experienced the same thing, especially with one of the boys. Though he was not even two years old, he had adopted the social strategy of keeping eye-to-eye contact and smiling. He did what *he* could in order to create a good social climate for interaction. The same kind of behaviour has been reported among refugee children (Håkansson, personal communication, November 1990).

The three different groups of strategies can be illustrated as in figure 2.2.

Figure 2.2 Interactive strategies used by IA children.



Many previous studies of child strategies have concentrated on either communicative and social strategies (Wong Fillmore 1976, Saville-Troike 1988a & b) or linguistic or language learning strategies (Nelson 1973, Plunkett 1986). Typically, what can be referred to as communicative and social strategies is found within the field of second language acquisition research, whereas language learning strategies etc. appear in first language acquisidon literature. Here, with the IA children, we stand in between these fields. We have children acquiring a second language as a first language, since the connections to the original first language are cut off.

Mutual adjustment

Communication is an activity occurring between (at least) two persons. Thus we would expect that the learner's communicative partner will make use of strategies as well. Caretaker adjustments have been subject to study during the past two decades and referred to as *Babytalk* (Ferguson 1977), *Motherese* (Cross 1976), *Mother's speech* (Snow 1977), *Child-adjusted register* (Junefelt 1987), etc. I have chosen to use the term strategy rather than adjustment for the special behaviour used towards the child learner, focussing somewhat more on the goal to be achieved than on the means of how to do it. Words such as adjustment and strategy may give the impression of something consciously performed, and it is therefore important to stress that this is not always the case. Many adjustments and strategies are employed unconsciously, and whereas many linguist parents may be more conscious of at least part of their own verbal and vocal behaviour, non-linguistically trained parents often are not (Junefelt 1987).

A mother of an IA child might have to increase her adjustments or use more special strategies because her child does not speak her language. She may, for example, have to speak more slowly and more simply (using short sentences and simple grammatical constructions) than if she spoke to a Swedish child of the same age. If she knows some words in the child's language, she can use them in order to help the child understand.

But most important of all, the mother of an IA child must try to create a good, accepting, and encouraging atmosphere. Therefore she will be expected to use a high degree of social strategies. Using the terms presented in Junefelt (1987), the mother of a recently adopted child may place extra emphasis on the affective component of her communication. Social (or affective) strategies are important in the communication between newly adopted children and their mothers. The reason for choosing the name social strategies is that this covers not only purely emotional and affective behaviour, but also the more neutral kindness and positive attitude often found in communication directed to children of 2-3 or older, i.e. children who are no longer babies.

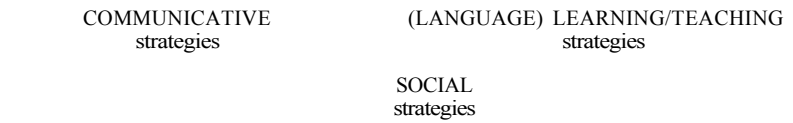
On the mother's part we can thus identify three groups of strategic behaviour corresponding to the child's - *communicative, language teaching* (cf. the children's language learning strategies), and *social.*

These strategies more or less correspond to the similar adjustments of the so-called Foreigner Talk register (Hatch 1983): to facilitate communication, to serve as an implicit teaching mode, and to establish an affective bond[3]. After all, IA children are 'baby foreigners'...

Our discussion of the three (communicative, language learning, and social) interactive tasks and strategy groups started in second language acquisition and has thus led us to the mothers of child foreigners. It seems, however, that the three tasks are valid also in first language acquisition. It has been proven many times and in different perspectives that mothers and infants communicate already during the first hours after birth (Wiberg 1990). As mentioned in 2.1.1, infants show a preference for the human face and voice and are reported to imitate certain facial expressions only some hours after birth. Mothers furthermore help babies to become intentional by assigning intention to almost any behaviour - a communicative strategy.

We may therefore assume that the tasks and the strategies that are used to perform the tasks are valid in every situation that contains interaction, regardless if it involves first or second language acquisition, or language acquisition at all. They are interactive tasks and strategies used in any interactive situation, only in different degrees depending on the situation, participants, activity, etc. This is illustrated in figure 2.3.

Figure 2.3 Interactive strategies.



The brackets around 'language' in the language learning/teaching strategies imply that in some cases the learning need not concern language, but rather social behaviour and rules.

2.2.3 Responsiveness

The third question concerns the responsive behaviour of both mothers and children:

How soon do adoptive mothers become responsive toward their children's communicative behaviour? To what extent do they respond to their children and how? How does this behaviour develop over the two years and how (if at all) does it differ from that of Swedish mothers with biological children ? How do the children develop their responsiveness? Furthermore, is it possible to explain certain maternal behaviour in terms of child behaviour and vice versa?

Ainsworth's theory with its definition of a sensitive mother (cf. 2.1.2) - a mother who *'sees* and *feels* her child's signals, *interprets* them correctly, and *responds* to them in an *adequate and immediate* way' (my italics) - enables us to stress the reciprocity of interaction, i.e. that the child influences his mother's behaviour. It should be possible to accommodate these thoughts in an interactive study.

[3] A special register, Teacher Talk, has been recognized by e.g. Henzl (1973) and Håkansson (1987) to characterize the adjustments made by immigrant teachers towards their learners.

My interpretation of sensitive communicative behaviour is that this is characterized by a high degree of *responsiveness*. To respond is to react communicatively to all signals made by the child, intentional or not, in any communicative channel (verbal or nonverbal), with the aim to establish and maintain communication. Of course, we cannot restrict ourselves to a purely verbal analysis of the responsiveness in the dyad. Sometimes it can be perfectly correct and satisfying to respond somatically (e.g. by a nod) or vocally (e.g. by a hum), and for a recently adopted foreign child these can in fact be the only communicative channels available. Often, a message is conveyed in many channels simultaneously. What may appear very neutral from a transcript may be signalled extremely forcefully by voice and mimics, and this is often the case in child-directed adult speech.

A high degree of maternal responsiveness ought to have a positive influence on the attachment process. I also believe that a high degree of maternal responsiveness is an important and positive factor governing the child's acquisition of possibly linguistic and certainly communicative skills. To a majority of mothers this sensitivity to respond comes naturally and unconsciously. But what about mothers of adopted children? Do they respond as automatically to their children, in spite of the lack of a shared background and a verbal language in common?

It is possible to respond either in a minimal or in a more elaborated manner. Often a minimal response can be quite adequate; sometimes more is needed. There are different kinds of elaborated responses. An elaborated response which takes the child's perspective and continues the topic introduced by the child can be called *a follow-up*. It is possible to follow up on a child's behaviour either by confirming or discontinuing its content, but the follow-up must take the child's perspective. A follow-up may well introduce new things to talk about, but within the interest of the child - the adult continues to talk about the same thing as the child. The importance of letting the child keep his initiative as well as continuing the topic which was introduced by the child has been emphasized by Soderbergh (1980). Joint attention (Wells & Montgomery 1981, Soderbergh & Bredvad-Jensen 1987, Soderbergh 1991, and Akhtar, Dunham & Dunham 1991) or joint involvement (Mills et al. 1985) has been claimed to be an important ingredient in communication and also a factor promoting language development.

The term *link* has been used by Mills et al. (1985) to identify utterances that follow up on child behaviour and furthermore act as potential for a subsequent response by the child - a link has an elicitating effect. One special kind of link - the *world link,* defined as a follow-up that 'situates the child in his own family and social context and makes experiences relevant to him', (Mills et al. 1985:13), has been found to be neglected by depressed mothers in communication with their children. An example of a world link is the following:

(6)
Child: Juan
Age: 2:0, 10 weeks after adoption

Child 1:	daegi	*Picks up toy cat dressed in sweater*
Mother 1:	ja titta KAtten har fått en ny TRÖja= =precis som DU också har ny tröja på= =dej idaju (yes the cat has got a new sweater just= =like you have got a new sweater today)	
C 2:		*Looks at own sweater*

(A7)

Adequacy

What is an adequate response? It may be that it is possible to determine in advance the characteristics of an adequate response in rather formal adult-adult communication, but it seems to be quite difficult in the informal interactive mother-child dyads where non-verbal communication plays a much more important role and where important and often decisive shared background information is unknown to the researcher. In many cases the partner's reaction will determine whether or not a response has been adequate.

We can definitely regard as *inadequate* responses consisting of:

1. Non-responses. Partner is silent and makes no nonverbal response.
2. Non-follow-ups. Turns, verbal or nonverbal, which do not respond or tie on to the previous turn, i.e. do not continue the topic of the previous turn.

Adequate responses are more difficult to define. Does am adeqiate response constitute a *possible* answer or comment, or are other qualities necessary? Does it have to be elicitative, confirming and supportive? Are there any situations where a contradictive, critical or negative response can be regarded as adequate? Is a response adequate when the partner appears to be satisfied? Or is it only adequate when the researcher is satisfied? I will discuss some examples.

We have already mentioned minimal responses. It is obvious that sometimes a minimal response is adequate; other times an elaborated response is needed. In the following example the mother keeps giving minimal responses, which results in the child's repetitions.

(7)
Child: Paolo
Age: 1:10, first recording immediately after arrival in Sweden

Mother 1:	ja ska vi satta PA den igen= =tycker du? (shall we put it on again= =shall we?)	*Peaches for the doll*
Child 1:	mita (child's version of camisa [=shirt]	
M2:	ja	
C 2:	mita	
M3:	ja	

C 3: mita
M 4: tror du den PAssar? *Starts dressing doll*
(do you think it fits?)

(CI)

Is the mother behaving inadequately when she is only giving minimal responses instead of elaborated ones, or is she rather behaving adequately because she is responding? Would it have been adequate to respond by a disconfirmation? Is the child really asking for a more adequate response, or is this just a way of communicating with a very limited linguistic repertoire?

Follow-ups are elaborated responses that are continuations of the partner's previous turn - whether elicitative or not. Follow-ups may, in addition to being continuations of the partner's previous turn, also contain the introduction of a new, fresh topic, as in (8):

(8)
Child: Guillermo, [0:8]
Age: 1:10
Child 1: vera e de kommer? (who is that coming?)
Motherl: ja vem e de som KOmmer? (yes who is coming?)
tror du de KOmmer nån? (do you think someone is coming?)
näe de VA nog ingen (no I don't think it is anyone)
(pause 2 sec.)
ska du sjunga Bä bä vita lamm?
(will you sing Ba ba black sheep?)

(Gl)

This enables us to account for topic changes within turns, which is quite common. The mother's response in example (8) can probably be regarded as adequate since it is a proper follow-up of the child's topic, while at the same time it introduces a new topic in a suitable place.

Another example of a topic change within a tum is presented in (9):

(9)
Child: Paolo
Age: 3:11,2 years after adoption
Mother 1: tycker du de liknar MORmor/=ja tycker=
=OCKså i å för sej att de liknar mormor=
=OCKså *Touching doll 1*
(do you think it looks like grandma/=
I too think in a way that it looks like=
=grandma too)
Child 1: *Picks up new doll 2*
åhärThta!
M 2: mm *Touching doll 1*
de liknar mormors SKOR/såna SKOR
(they look like grandma's shoes)
hade mormor *Shows doll 1*
(grandma had)

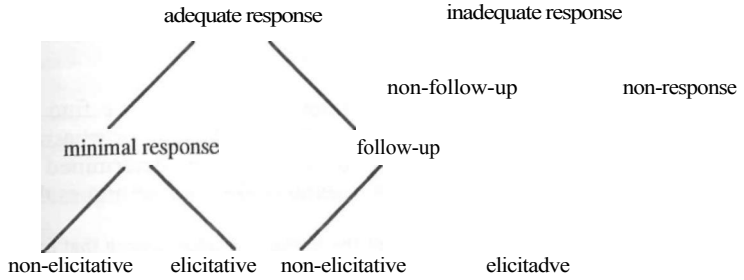
(C11)

Utterances such as M2 in (9) above are 'false' responses in that they are non-follow-ups of the partner's previous tum. The 'mm' in M2 is not a response but a

feedback signal indicating that some communicative contact exists between her and the boy. However, she does not even look either at the boy or at the new doll, only at the 'grandma' doll she is playing with.

The above discussion may be illustrated as in figure 2.4.

Figure 2.4 Response categories.



I will interpret adequacy in a rather broad sense and equate it with responsiveness. Turns which are not follow-ups of their previous turns and false responses (and as such non-responses) are no proper responses and therefore classified as inadequate.

Accordning to Ainsworth et al. (1978), the responses should not only be adequate, but also immediate. The communication between adult and child is of course of a very direct and immediate kind, and responses do normally, if not always, appear immediately after the initiative. In my data there are no such cases, as in adult-adult communication, where responses may tie on to initiatives made some turns ago. The only exception to this are in-between clarifiction requests such as 'What?' etc. Therefore, in my analysis, I only count as responses utterances which do in fact respond to the immediately preceding initiative. Clarification requests may intervene, but the initiative may not be more than four turns away (cf. Feilberg 1991).

Child responsiveness
If we regard the aptitude to respond to a communicative partner as a personal quality that is developed from very early on in life, it should be possible to study responsiveness in children, too. It is interesting to follow this development and to compare children who are recently adopted - and therefore strangers to their

mothers - with non-adopted children who know their mothers well and have a language in common with them. We should, of course, expect to find quite a high degree of non-responsiveness in the youngest children, and in particular among the adopted children.

Another interesting aspect will be: What does it take in terms of elicitative force to receive a response from a child - adopted or non-adopted, and at different age levels?

Mutual influence

Dyadic communication between a mother and a child and communicative behaviour have been the topic of many studies. Mothers are superior to their small children as far as linguistic and communicative competence is concerned, and it often becomes the mother's responsibility to keep the communication going. The mother adapts her behaviour to the behaviour of her child in order to maintain interaction.

Among the previous studies of maternal interactional styles we find Lieven (1978), Wells (1980), and Howe (1981). In all these studies it is emphasized that the mothers' choice of style is, at least to some extent, determined by the communicative behaviour of the children. Lieven (1978) further argues that:

> "...if it turns out to be the case (1) that many of the features of adult speech that have been noted in the literature as potentially helpful to the language-learning child are dependent for their efficacy on the already acquired conversational skills of the child, and (2) that individual differences in language learning are related to individual differences in conversational interaction between the child and others, then perhaps we shall have to look more closely at the development of pragmatic skills in young children. Amongst other things, this would involve investigating individual differences in the development of turn-taking in infancy and possible manifestations of these during the period of language learning."
>
> (Lieven, 1978:185)

In the case of an IA child this appears to be quite a probable hypothesis. Here we have a child with a totally unknown communicative background experience. He has at the age of two years already acquired a certain communicative competence, and the adoptive mother's performance will depend on how he behaves. The two have, however, no communicative background in common.

One of the aims of this study of adopted children in interaction with their adoptive mothers is to reveal that the children also play an important role in the interaction and that their behaviour influences the mothers' interactive performance in spite of the lack of a common communicative background. A mother may e.g. adopt a child with poor communicative experience, and as a consequence of this the mother will behave dominantly in terms of using many regulatives and commands, etc. - i.e. the kind of behaviour which has traditionally been argued not to favour the child's linguistic and communicative development.

For the purpose of highlighting the interdependence of mother and child behaviour I will analyze all utterances - verbal and nonverbal - according to

their function. The functions distinguished are based on different speech acts, such as requests, statements, descriptions, confirmations, etc., and are specially intended to capture either the kind of utterance functions we could expect to be used in LA dyads or any aspect in which IA dyads are likely to differ from non-IA dyads. Therefore, I will treat e.g. the providing of information and providing of identification as two different functions, even though the latter may be regarded as a sub-function of the former. However, in IA dyads with children who are starting to learn Swedish at the age of two or more, it seems possible that there the providing of identification function will be used more than in non-IA dyads.

Furthermore, the mothers' choice of syntactic form of their utterances can to a certain degree be said to depend on child performance. The form category will of course only apply to verbal utterances, and here we find what is usually called sentence types: declaratives, interrogatives, and imperatives. In previous studies interrogatives have been found to be the most frequent sentence type used in child-directed speech and also the most language acquisition promoting type (Newport et al. 1977). Imperatives are argued not to favour language development (ibid.).

For a more thorough presentation of the different functions and forms, see 3.3.3.4.

2.2.3 Verbal development

Question four: *With respect to verbal language, to what extent do the children try to use their original language? Furthermore, how does their verbal language develop? How soon, if at all, do they reach the level of their age-matched Swedish peers?*

Concerning verbal language, Columbian IA children of two years of age can be expected to have at least some command of Spanish. To what extent will they try to use their original language in communication with their adoptive parents? Will there be instances of language mixing, either on the lexical or the grammatical level?

With respect to the command of Swedish, where do the IA children stand after the two years of this study, if compared to non-adopted Swedish children? In order to answer this question a number of tests will be used. Furthermore, the children's spontaneous speech will be analysed.

All results concerning verbal language are presented in Chapter 5.

2.2.4 Interactive profiles

Question five: *Is it possible, based on different channels of communication, responsive behaviour, and strategic behaviour, etc., to identify different interactive profiles among the children and their mothers?*

One of the aims of this study is to try to establish a number of different interactive profiles in IA children and mothers. These profiles will be based on the following aspects:

1. Preferred channel of communication and its development, especially in reference to the children, since their behaviour seems to be more varied than that of the mothers.

2. Preferred type of strategies, if any, and the development of strategy choice.

3. Responsive behaviour and degree and development of responsiveness and response types. Both mothers' and children's behaviour is of importance.

4. Most common function (speech acts) of verbal and nonverbal behaviour, and form (sentence type) of verbal behaviour and their development.

Furthermore, is it possible to identify any particular interactive behaviour that seems to favour linguistic or communicative development more than other types? If so, it should be possible to identify 'risk' children already from the start and if not provide special training - since this might not be the right thing to do with a recently adopted child - then at least help parents to become aware of the situation and advise them of how to help their child in the best possible way.

The results and discussion of interactive profiles are found in Chapter 6.

It is my desire that the findings of this study can be of assistance or guidance to people involved in the adoption procedure: parents in the first place, but also adoption agency officials, teachers, day-care personnel, child welfare clinics' nurses or doctors, etc. Maybe at least through the knowledge and awareness of the processes described in this study, the outcome can provide some help in their contact with adoptive children, whatever this may be - skin-to-skin, through counselling or other treatment, or just through reading.

3 Methods

3.1 Data collection

This is a longitudinal study, and the data collection proceeded during a period of almost five years. Each child was followed for two years, but due to difficulties in the identification of children for the study the data collection procedure turned out to be quite time-consuming.

3.1.1 Selection of subjects

Contact with the families taking part in the investigation was provided through *Adoptionscentrum* (two children) and through families already contacted who in turn knew of other families who were just about to receive a child (two children). Two of the families taking part in the study were friends of mine (however non-linguists). When first approaching *Adoptionscentrum* with the request to identify children for the investigation I had set up a number of criteria that should, ideally, be met. These were:

Age. The children should be approximately the same age and between 2 and 3 years old. This would mean that they would already have started their language development in their first language; i.e. they would become language switchers. As the age period of 1:6-3:0 years has been described as a critical period for adoptions when in terms of future language development (Gardell 1979), it would also be interesting to choose an age of arrival that allowed for a more detailed study of the language switching process during this 'critical period'. Another reason for investigating children of 2-3 is that this was, at the time for the criteria set-up, an increasingly common age of adoptees.

One might argue that with even older children (4-5 years) the language switching problems would appear more clearly. It was rare at the time for the criteria set-up for children to arrive this late. Eventually, the trend veered towards older children, and I decided to include one child of 4-5 years in the study.

Country of origin. The children should have the same country of origin, namely Columbia. I chose Columbia for three reasons: First, I already knew a family with a Columbian boy adopted at the age of eight months (Guillermo, see 3.1.1.1) and it might be interesting to make comparisons between this child and children arriving later in life. Second, since Spanish is the language spoken in

Columbia, I would be able to see whether the children made use of their first language in Sweden. And, in the event that they did use their first language and I could not understand it, I would have little difficulty in finding a person who could assist me in doing so. Third, since Columbia is one of the largest adoption countries for Sweden, I assumed it would be easier to find children from this country.

This has turned out to be a lucky choice. From the only alternative country, Korea, which is also a common country of origin (cf. 1.1), the number of adoptions decreased remarkably during 1988 and 1989 *(Antalet adoptioner...* 1990). In India, another large country of origin, the language situation is one of great diversity with many different languages being spoken, which might result in problems when trying to get children with the same original language. From Sri Lanka, which was an important country of origin at the time when this study was started, mainly infants were adopted.

Parents' language knowledge. The adoptive parents should not be able to speak the child's original language. This prerequisite was of course difficult to fulfil when choosing a language like Spanish. The parents in both families had attended one or two terms of evening classes in order to learn some Spanish. However, this appeared to be a minor problem. Actually, it was good for the children that the parents could understand at least some important words. Also, the kind of child Spanish the children spoke at the age of 2 was quite difficult to understand, and consequently conversation was held in Swedish, with the exception of certain key words such as *agua, gracias, si, no,* etc.

Based on their mail inquiry to parents and teachers of IA children Berntsen & Eigeland (1986) have shown that it is of minor importance for the children's language development in Norwegian whether the parents can speak the children's first language or not. It may be useful during the first period after the adoption, but in the long run it seems to be irrelevant.

Family language. The new language should be Swedish. No bilingual families were accepted. The parents should be monolingually Swedish.

Background. The children should come from a similar background, and this should be one that is as optimal one as possible when it comes to communicative experience. Since I was to study communication, the children should have a 'family' background; i.e. be used to the life in a home, used to communicating with others, used to playing, etc. Foster home or a background with relatives would not guarantee any particular language status, but the children would probably be used to communication. This might not have been the case with children from an orphanage.

Health. The children should be in good health, physically as well as mentally, since problems in either one or both might have an influence on language development. This meant that children with e.g. sight or hearing impairments could not be considered. Neither could I include children with brain damages in the study.

Parents' occupation. The parents should be non-linguists and non-teachers; i.e. they should be sufficiently unaware of language training so as not to deliberately manipulate the children.

Place of residence. The children should live in the Lund-Malmo-Eslov-Landskrona region in order to facilitate travelling for the numerous recordings I was to make.

First and only child. The children should be the first and only child of the family in order to make sure that the parents were not used to a continuous and intimate contact with children.

Recordings to start immediately. The time spent in Sweden and together with the parents before the first recording should be kept down to a minimum of days. There was a little time lag in that the parents had been together with the children for a period of about one week up to two months while collecting them from Columbia, but this was unavoidable (see also below).

Problems with the selection of subjects

For a number of reasons I had to accept that some of my criteria could not be met, and the main reason was time. Over a period of three years *Adoptionscentrum* could only offer two children who met with my requirements. I got to know the other children through the other families. It would not have been possible for me to wait for further children, since I intended to follow the children for two years.

Thus I had to accept that three children were slightly younger than originally planned, that their parents knew a little Spanish, that one parent was a preschool teacher, and - perhaps the most negative fact - that I could not be with the families at the moment when they received the children into their care. For several reasons I was unable to travel with the families to Columbia to be together with them during the week they stayed there. Furthermore, in 1990 the administrative procedure in Columbia was changed considerably so that parents were required to stay 8-10 weeks before returning to Sweden. This meant that I lost the earliest period for two of the children who arrived in 1990.

3.1.1.1 Subjects

The subjects identified were Juan, Paolo, Sergio, Julio and Guillermo. A biological monolingually Swedish child, Rupert, also took part in the investigation. All children have been given fictitious names.

Juan. Juan was raised in a foster home from 2 months of age. His adoptive parents (mother preschool teacher, father college teacher) went to Columbia to bring him to Sweden when he was 1:10 years old. They spent two weeks there

before returning to Sweden. Because of a minor injury to the boy's teeth that had to be treated immediately upon arrival, I could not visit the family undl five days after his arrival to make the first recording. Juan was an outgoing and contact-seeking child and he took great interest in the recording sessions. His mother stayed at home during the first six months after the adoption, then his father was home for another three months. After nine months in Sweden he joined a 'day mother' with a group of four other children. After two years in Sweden he started going to a day-care centre.

Paolo. Paolo lived in the same foster home from his 17th day of life. He was brought to Sweden by his adoptive parents (mother nurse, father employment agency official) at the age of 1:10. In this case a foot injury postponed my first visit to the family until a week after his arrival. Paolo had a more timid nature, and at the start he found it difficult to play with the toys I brought for the recordings. Since it was not the play in itself but rather the child-mother interaction in general I was interested in, this did not matter much. Paolo's mother stayed at home the whole first year, and then his father spent another year at home before the boy entered a day-care centre at the age of 3:9.

Sergio. A third child adopted at the age of 1:10 was Sergio, also brought to Sweden by his parents (both agronomists). Sergio had been living with his biological mother until he was six months old, when he was taken into custody because of maltreatment. He was hospitalized with pneumonia and afterwards went to stay in a foster home while awaiting adoption. His mother stayed at home with him for three months, then his father took another three months, and after this the parents each spent part of the week at home. At the age of 2:10 he began spending half the day with a 'day mother'.

Julio. I also included an older boy in the study, Julio. He arrived in Sweden at the age of 4:5 together with his parents, who had then spent 2 months in Columbia with him in their care (mother doctor's secretary, father engineer). He had lived his first two years together with his biological mother but was taken into custody because of maltreatment. During two years he stayed in two different foster homes. Julio's mother stayed at home for 1,5 years, then the boy joined a day-care centre. His Spanish was reported by the Columbian adoption authorities to be poorly developed. Maybe as a consequence of this it took quite some time before he was able to produce utterances longer than two words. He had some pronunciation problems, but was outgoing and very good at communicating. It was arranged for him to be checked by a speech therapist every sixth months, and at the age of 6 he started therapy on a weekly basis.

Guillertno. Guillermo was adopted by friends of mine at a relatively young age - 8 months, and this was one of the reasons that I took an interest in the language development of IA children. His parents (mother bank clerk, his father architect) went to Columbia to bring him home. I recorded him only at 1:10 and 4:0, for reference. Guillermo behaved in an extremely outgoing and communicative way and had a perfect command of Swedish. His mother stayed at home until the boy was 2:3, when he joined a 'day mother' group of five children.

Control child: Rupert. Rupert is a monolingual Swedish boy with whom I made recordings for control. He was born in March 1988 and I started to record him and his mother when he was 1:11; i.e. roughly the same age as three of the Columbian boys on arrival. He was the son of a PE teacher (mother) and a Swedish teacher (father). I recorded him at six month intervals until he had reached the age of 4. Rupert started in a 'day mother' group at the age of 1:10 and left the group at 2:5 because he had a baby sister and the mother spent her days at home again.

Risk children?
Within the above group of children we ought to be able to identify possible 'risk children' with reference to findings of earlier studies.

We have three children, Juan, Paolo and Sergio, arriving during the 'critical period'; i.e. 1:6-3:0 years of age (Gardell 1979). Julio, arriving at 4:5, can be classified as an 'older child', and is therefore also in the risk area (Gardell 1979, Berntsen & Eigeland 1986). Furthermore, Sergio and Julio were separated from their biological mothers relatively late and they were maltreated and neglected. Julio was moved between different foster homes. All the above are factors that might influence linguistic development.

3.1.2 Recordings

The recordings were undertaken according to the following schedule and procedure.

Recording schedule
The children were recorded according to the following schedule:

Months after adoption (age-matched occasions for Guillermo and Rupert)

	luan	Paolo	Serg.	Guill.	Julio	Rupert
0	x	x	-	x	-	x
0,5	x	x	-	-	-	-
1	x	x	x	-	x*	-
3	x	x	x	-	x	-
6	X	X	X	-	X	X
12	x	x	x	-	x	x
18	x	x	-	-	-	-
24	x	x	x	x	x	x

* This recording was made 2 months after adoption = immediately after arrival in Sweden.

Juan and Paolo were recorded according to the schedule originally set up. When Julio and Sergio arrived, the legal procedures in Columbia had been changed, causing parents to stay longer before returning to Sweden. Julio's parents stayed 8 weeks and Sergio's parents 4 weeks, with the children in their care. This meant that I was unable to record the boys immediately after adoption.

Guillermo, who was adopted at the age of 8 months, was recorded at 1:11 and 4:0. These were the occasions when his age corresponded to that of Juan, Paolo, and Sergio on adoption and when I ceased recording them. The last recording made with Sergio was made after he had been in Sweden for 23 (not 24) months, for time reasons.

Rupert was recorded on four occasions - at the age of 1:11, 2:5, 2:11, and 3:11.

Furthermore, I made several extra recordings with Juan and a few extra recordings with Paolo from which some of the examples in the text are taken. These recordings have however not been analysed.

Recording procedure
All video recordings were made with a Panasonic VHS compact cassette camera (MC10). This provided sufficient sound quality for the purposes of this study. I did, however, make audio tape recordings as well. This is a method which facilitates transcriptions in that it enables the researcher to concentrate on one communicative channel at a time. First you make verbal transcriptions from the audio tape, then you add the visual information from the video tape. Watching the tapes will also rule out many uncertainties from the verbal transcription - lip movements, nonverbal language accompanying the verbal, and the general context will all aid in deciding what is said.

Recording sessions lasted for 30 minutes (i.e. the length of a video compact cassette) and took place in a free play situation in the children's homes. The setting was the following: Mother and child in front of the camera with a bag containing various toys. The mother's instructions were to keep the child talking and see to it that he did not turn his back to the camera too often. They could play freely with the toys and could also bring out their own toys.

The toys brought were a doll with accessories (such as bottles, diapers, bathtub, bed, etc.), a stove with accessories, dollhouse dolls with furniture and accessories, puppets, soft animals, farm animals, and some books and puzzles. Dolls were chosen for several reasons:

1. The baby doll is only slightly 'younger' than the child. Whether or not the child has gone through a period of strain he will be able to act out his experiences from his own life. Thus he will want to play with the doll.

2. The language of the parents is found to be richer when the toys are dolls as opposed to vehicles or shape sorters (O'Brien & Nagle 1987). Parents talk more and ask more questions and this would give the child opportunities to talk. I also experienced that when I once brought a toy motorcycle the boy would not play with anything else, and furthermore he would spend the whole recording session making motorcycle noises instead of talking.

3. The children in the study were boys. It might be that they were not used to playing with dolls. Perhaps the opportunity of now being able to do so would make it more interesting? This was confirmed by the great interest all boys showed for the doll. Also, the mothers took great interest in the dolls and especially the doll house furniture and accessories. If a mother is interested she will probably be more anxious to make the boy engage in interaction.

Problems during recordings
One problem when making recordings in someones home is that it is difficult not to be disturbed. Clocks striking, telephones ringing, post dumping through the entrance door, rumbling washing machines, roaring buses in the street, unbidden guests at the door, etc. make a sophisticated phonetic analysis impossible. Acoustic analysis goes beyond the goals of this investigation, however. Nevertheless, these noises can be disturbing in that they can interrupt recordings. Very seldom did we stop the camera, however, because of these nuisances. Rather, since they gave topics to talk about we went on recording. This was the natural setting we had chosen.

While on the subject of naturalness - how did the subjects react to being recorded? This is impossible to measure or judge. However, I came to spend quite some time with the families before and after recordings, in some cases whole days. Therefore I think I can say that all mothers seemed to be very much at ease. It might be that they concentrated so much on playing with their boys that they forgot about me. Or, they did not realize that I was as much interested in them as in the boys. When I asked them about this they said they were a little nervous in the beginning, but that once we got going everything was fine.

The boys seemed to accept the situation. They did not show as much interest in the camera as one might have expected from a child, but perhaps they were too young. All mothers reported that the boys talked less during recordings than otherwise, but that apart from this they all behaved as they normally did.

There was the constant problem of the boys turning their backs to the camera. The mothers tried to make them turn around again, but it was impossible for them to keep on turning the boys without annoying them. Therefore I have accepted that in some sequences one cannot see the boys' faces.

3.2 Data selection

The data collection resulted in 32 recordings of 30 minutes, a total of 16 hours. It would have been impossible to analyse all this data, so it was necessary to select parts of the recordings for analysis. I chose to analyse the first 15 minutes of every recording. I preferred to use this kind of 'blind' selection, since it would prevent me from more or less consciously picking out sections in a less objective manner. Fifteen minutes is a period long enough to allow for the varieties in the interaction described below and to provide a sufficiently large amount of data.

I chose *the first* 15 minutes of the recordings because this part often contained interesting situations in which the children asked their mothers for help; e.g. to open the bag, to pick out things, and to show them how to use things. Later on in the recording the children would sometimes get restless, tired, bored, or in some other way lose their interest. All recordings did not in fact last for a full 30 minutes but had to be interrupted earlier.

3.3 Preparation for analysis

The video films were prepared for analysis according to the following procedure:

3.3.1 Transcriptions

Transcriptions are laid out as a film script, with the text (verbal behaviour) in the left column and the stage directions (nonverbal behaviour) in the right one.

Verbal transcriptions are presented in Swedish spelling adapted to pronunciation modifications (Strbmqvist 1979). Babble vocalizations and verbal utterances that diverge greatly from their standard or adult version are represented with IPA symbols.

The following conventions are used:

(...) is used to mark an unintelligible verbal utterance. Uncertain utterances are represented within parenthesis. An equal sign (=) at the end of a line followed by another = at the beginning of the next line indicates continuous speech, a slash (/) interrupted speech, and square brackets ([]) enclosing two lines simultaneous speech. I use capital letters to indicate stressed syllables. Vocal characteristics such as whispering, laughter, etc. are marked in the verbal column immediately after the utterance.

3.3.2 Segmentation into units

My analysis is based on three different units of segmentation in order to capture different characteristics of the interaction: the turn, the utterance and the topical string.

Turns and utterances
In order to study the patterns of responsiveness in the different mother-child dyads I will be using the *turn* as the unit of communication, based on Garvey (1984) and Linell & Gustavsson (1987). The turn is defined as "a unit of the distribution among the different speakers of the right or obligation to talk in a talk engagement" (Garvey 1984, p. 30) and as a continuous period when a person may speak; i.e. has the right or obligation to do so (Linell and Gustavsson 1987). I define the turn as all that is performed (verbally or nonverbally) in the pause between a partner's contributions.

Using the turn as a unit of conversation will capture the alternations between speakers.

I will also use the *utterance* as a unit of conversation, based on the Hellspong (1988) model (which in turn builds on definitions of Weiner & Goodenough 1977 and Soderbergh 1984), which defines an utterance as a prosodic unit that has "an enveloping prosodic contour, uniting its components into a perceptual whole. Its end is marked by a terminal intonation contour, a terminal juncture". This definition was however designed to account for *verbal* signals. As already mentioned in 2.2.1,1 also distinguish between the *vocal* and *somatic* channels of communication. Vocalizations could be included in the above definition of verbal utterances, whereas somatic signals cannot.

Somatic utterances are more difficult to define. The temporal factor is important. A somatic utterance is any communicative gesture, action, or facial or bodily expression used either instead of a verbal or vocal utterance or together with it (see also 3.3.3.1). Somatic utterances are separated temporally as follows: A child picks up a toy, holds it and examines it, then puts it away = 3 utterances (the picking up, the holding, and the putting away). A child picks up a toy and moves it to another place in one movement = 1 utterance (the moving). Junefelt (1987) defines a somatic turn as "composed by one or several somatic expressions. Boundaries between turns are signalled by interruption or 'freezing' of the expression" (p. 63). Junefelt's unit of expression can be equaled with my utterance unit.

With the utterance as a unit of conversation, the focus lies on aspects which are typically turn-internal; i.e. they are mainly linked to the utterance itself, not to the previous turn. The use of the utterance is motivated by my wish to illustrate the children's and mothers' use of different communicative channels and the development of this use. An analysis such as this one could not be made with the turn as conversational unit, since turns can consist of more than one utterance and may be produced in more than one channel. Furthermore, an utterance

analysis will also enable us to capture the use of different interactive strategies, which may be more than one per turn, as well as utterance function (such as requests, confirmations, proposals, denials, etc.) and the syntactic form of the utterance (imperative, declarative, etc.).

Topical strings
Topical strings or utterance strings (Hellspong 1988) or dialogue chains (Söderbergh 1980, Feilberg 1991) consist of sequences of utterances or turns produced by both speakers and are separated by changes of topic. I therefore prefer the name topical strings. Frequent changes of topic; (i.e. many topical strings) are argued to be a sign of a fragmented dialogue (Lineli & Gustavsson 1987). In order to see in what sense the situation of a recently adopted child would contribute to the fragmentation of the dialogue, I have counted the topical strings and consequently also the introductions of new topics to the interaction. This counting also reveals possible dominance relations in regard to who is introducing the topic of conversation.

3.3.3 Coding procedure

In the following the coding principles of the different part studies are presented. It should be emphasized that all codings must be performed while watching the videotapes and not from merely reading the transcriptions.

3.3.3.1 Coding of channels of communication
In agreement with the Sbderbergh model (e.g. Soderbergh & Bredvad-Jensen 1987), I regard communication as performed in the following channels (cf. 2.2.1):

1. The *verbal* channel, which covers all spoken verbal language.

2. The *vocal* channel; i.e. communication signalled by the voice (non-words as well as qualitative aspects such as tone, pitch, and stress which lacks linguistic function).

3. The *somatic* channel, consisting of communication signalled by face, body, and posture.

Using the utterance as the basic conversational unit, I have coded all utterances according to channel of production.

I have coded all identifiable protowords as verbal ('identifiable' meaning that the utterance should be phonologically similar to the adult version; such as *misa* or *mita* for *camisd).* Conventionalized onomatopoeic expressions like *nam nam* (yum, yum), *vov* (bow wow), *mjaou* (miaou) etc. have been coded as verbal. The same procedure has been used by Hellspong (1988), who codes these 'lexicalized

vocalizations' as verbal. Furthermore, all verbal utterances are specified for language used - Swedish or Spanish.

Unintelligible utterances, hums, laughter, moaning, sighs, etc. have been coded as vocal.

It can be difficult to decide what somatic behaviour is to be regarded as an utterance. Some somatic behaviour is conventionalized and has an explicit communicative intent (nodding, pointing, illustrative gesturing, etc.); other gestures may be used more unconsciously, yet still they may have implications for the interaction.

I have chosen to code as somatic utterances:

a) All identifiable bodily, facial, manual, etc. behaviour that is obviously accepted by the partner as having communicative intent; i.e. all nonverbal (and nonvocal) behaviour which is triggering a response from the partner.

b) All bodily, facial, manual, etc. behaviour which is apparent to the researcher as having communicative intent and which ought to have triggered a response from the partner, but is followed by a non-response or an inadequate response. The communicative intent is often obvious from the fact that the child repeats his utterance or changes channel of communication (cf. Feilberg's (1991) definition of breakdowns, *'brudd').*

In order to allow for the quite common behaviour, in both children and mothers, of making utterances in more than one channel at a time, I have also chosen to recognize two further channels, namely:

4. The *verbal-somatic* channel, which includes utterances produced in the verbal and the somatic channel simultaneously; e.g. when you say 'He's a very tall man' and raise your hands at the same time.

5. The *vocal-somatic* channel, including utterances which are both vocal and somatic, as when you imitate the sound of a car with your lips and at the same time indicate the route of the car with your hand.

These two bi-modal channels are particularly important in a context in which play takes place.

3.3.3.2 Coding of strategies
In order to find out what interactive strategies are used both in IA and in non-adoptive dyads, how and to what extent they are used, and what their development looks like during the first two years after adoption, I have used the following procedure:

I have assumed that all utterances *can* perform interactive strategies, but can also be neutral. Since in particular social strategies may be performed somatically, some utterances can perform two (or even three) types of strategy at the same time; i.e. the mother smiling broadly while offering a doll and its diaper, uttering: 'Can you put on the diaper?' etc.

I have coded all utterances either as performing one or more of the three interactive strategies - communicative, language learning (or teaching), or social - or as being neutral. I have also distinguished between various strategy subcategories. The following interactive strategies were distinguished:

Communicative production strategies:
Repetition (of own utterance)
Repetition plus nonverbal signal
Change of communicadve channel
Addition of nonverbal signal to verbal utterance
Paraphrase
Paraphrase plus nonverbal sign
Intense eye-to-eye contact

Communicative perception strategies:
Pretend, guess
Clarification request
Interpretation
Imitation

Language learning strategies:
Imitation
Manipulation
Check

Language teaching strategies
Naming
Correction
Check
Instruction

Social strategies:
Voice
Smile/face
Voice/face
Touch/approach
Verbal

The following are examples of how the different strategies are employed by the children and mothers in this study.

Communicative strategies
Communicative strategies are used either to promote production or perception.

Communicative production strategies are often used in order to 'save' the communication:

Repetition. When being misunderstood there are a number of ways to deal with the situation. You may repeat yourself, as in example 1.

(1) Child: Juan
Age: 2:0
Situation: Child picks up a doll's bathtub fish

Child	o: piti	
	piti	
	piti	
	piti	*With increasing intensity and eagerness.*
Mother 1 :	VISpen? (the whip?)	
C 2:	hm	
	piti	
	piti	
	piti	
M 2:	FISKen!	
	(the fish)	

(A8)

Repetition is sometimes combined with a nonverbal (somatic) expression.

Change of communicative channel. We find repetition in example 2 also. However, the boy is repeating a phonologically uninterpretable utterance, so this strategy fails. He then changes channel of communication and tries to illustrate his wish by showing another similar object, and this strategy proves successful.

(2) Child: Juan
Age: 1:11
Situation: Child is playing with toy stove.
There are two pans, but only one pan has a lid.

Child 1:		*Looks around for a lid*
	nää (noo)	
Mother 1	där e LOCKet (there's the lid)	
C 2:		*Finds lid and puts it on pot*
	ne goki	*Demanding voice*
	kotli	*Points at another pan which lacks a lid; eye-to-eye-contact with mother*
M 2:	mm	
C3:	kotli	*Points towards kitchen (and front door)*
M3:	ska du ha SKOR?	
	(do you want shoes?)	
C 4:	kotli	*Points at kitchen*
	kotli	*Points in lidless pan*
	kotli	*Moves lid from one pan to the other, it does not fit but helps him to express his wish*

M 4: jassa du vill ha ett LOCK?
(oh you want a lid?)
vill du HA ett lock?
(do you want a lid?)
C 5: ja!

(A6)

Addition of nonverbal signal to verbal utterance. A very common communicative strategy is to accompany and support the verbal utterance with gestures such as pointing, touching, nodding, or facial expressions.

(3) Child: Paolo
Age: 1:10
Situation: Mother and child playing with a doll

Mother 1:	VET du nat/ja tror de e ti=	
	=den STOra dockan ja	*Shows doll's bottle*
	(you know what/I think it is for=	
	=the big doll yes)	
	TRORja ... att deeti den	
	(I think ... it is for that one)	
	sa far du ta UT nappen	*Takes out pacifier herself*
	(than you can take the pacifier out)	
	ska du HAlla nappen	*Gives pacifier to child*
	(can you hold the pacifier)	
	kan MAmma ge henne MAT	*Feeds doll*
	(can mummy feed her)	

(CI)

Paraphrase. The mothers (and sometimes the children) use paraphrase together with or without nonverbal expressions in order to get the message through. The important words will receive heavy stress in order to make them salient enough. In example 4 Juan's mother combines the repetitions and paraphrasing with nonverbal communication - she points at the trousers she wants.

(4) Child: Juan
Age: 1:11
Situation: Mother is helping child to dress doll

Child 1:	Oh	*Points at doll's behind.*
Mother 1:	ska ja HJÄLpa dej?	
	(do you want me to help you?)	
	mm ti dockan (mm to the doll)	*Takes doll; starts undressing.*
	kan du ge mej BYxorna Juan?	
	(can you give me the trousers Juan?)	
	kan du ge dockans BYxor?	
	(can you give the doll's trousers?)	
	kan du ge mej dockans BYxor?	
C 2:		*Gives the trousers.*
M 2:	mm TACK (mm thank you)	
	kan du ge dom ANdia byxoma=	
	=fbrst?	
	(can you give the other trousers first?)	
	UNderbyxorna (the underpants)	*Points at them.*
	titta UNderbyxorna (look the=	
	=underpants)	
	DÄR ja... (there they are)	
C3:		*Gives the underpants.*
M3:	tack (thank you)	

(A3)

Intense eye-to-eye contact. Fixating the partner's eyes is a means of showing that you really meant what you just uttered. It is a sign for the partner to recall your utterance and respond to it.

(5) Child: Julio
Age: 5:5
Situation: Mother and child are looking at a doll-sized cake

Mother 1:	va FINT (how nice)	
	va e där för BÄR i tårtan?	*Points.*
	(what kind of berries are there in =	
	=the cake?)	
	va ska vi ha för BÄR i tårtan?	*Eye-to-eye contact.*
	(what kind of berries should we=	
	=have in the cake?)	
Child 1:	Eih	*Eye-to-eye contact.*
M 2:	va e där för BÄR i tårtan?	*Eye-to-eye contact.*
C 2:	(SIGHS)	*Eye-to-eye contact.*
M3:	hitta på nånting/du kan ju HUR=	
	=många bär som helst	
	(make someting up/you know=	
	=a lot of berries)	
C3:	bär? (berries?)	*Eye-to-eye contact.*
M 4:	ja (yes)	*Eye-to-eye contact.*
	men va E de för bär?	*Eye-to-eye contact.*
	(but what kind of berries are they?)	

(J05)

Pretend, guess. When you do not understand your partner but still want the communication to go on, you may pretend you do. A simple kind of this strategy is to pretend to understand - to nod, smile, or say something like *yes, okay,* etc. Another way of pretending is to act reasonably or to guess: Do something you think is appropriate to the situation. This is shown below. Even though the boy does not understand the words *hungry* and *food,* he knows there is something wrong with the doll and he knows what unhappy babies want.

(6) Child: Juan
Age: 1:10
Situation: Mother and child playing with the doll

Mother 1:		*Holding doll.*
	vet du VA? (I tell you what)	
	dockan GRÅter:	
	MAmma, mamma, mamma	
	(the doll is crying:	
	mummy, mummy, mummy)	
	MAmma, mamma, mamma	
	(mummy, mummy, mummy)	
	dockan är HUNGri, Juan	
	(the doll is hungry)	
	dockan vill ha MAT	
	(the doll wants food)	
Child 1:	mm	*Reaches out for the doll.*
M 2:	mm kan du ge dockan MAT?	
	(can you feed the doll)	
		Hands over doll
	kan du.../	
C 2:		*Takes doll.*
		Kisses doll

M 3: åååå får dockan en PUSS
(oooh the doll gets a kiss)
va SNÄLL du är
(how kind of you)
C 3: *Throws doll back to mother.*
M 4: tack
(thank you) (A2)

Clarification request. You can ask for clarification when you have not understood or heard what your partner has said, as do Child 2 and 3 below.

(7) Child: Juan
Age: 3:10
Situation: Mother shows the doll's stove
Mother 1: tror du UGnen går å öppna? *Manipulates stove.*
(do you think the oven can be opened?)
Titta (look) *Opens oven.*
då kan du stoppa IN å LAga=
=nåt i UGnen ida *Closes again.*
(then you can put somelhing=
=in it and cook in the oven today)
de har du ALDrig gjort
(you have never done that)
Child 1: SKINkan (the ham) *Takes ham.*
M 2: e de en S KINka? (is it a ham?)
mm
C 2: e va/va SA du? (is whatAvhat=
=did you say?)
M 3: e de en S KINka?
C 3: va SA du mamma?
M 4: du har nog aldrig öppnat den=
=UGnen å LAgat nåt därinne
(you have probably never=
=opened the oven and cooked=
=anything in it)
(A25)

Interpretation. An interpretation of the partner's verbal or nonverbal behaviour can serve as a check that you have understood, can give verbal language to what was performed, or can give an expanded or grammatical version of an utterance.

(8) Child: Paolo
Age: 1:10
Situation: Child is playing with the doll
Child 1: *Points at doll; feeds doll.*
Mother 1: fick ja/å så får DOCKan också=
=lite frukost
(did I/oh the doll gets some=
=breakfast too)
C 2: mm *Gives bottle to mother.*
M 2: ja?(yes?)
ska JA ge henne den?
(shall I give it to her?)
hm?
Feeds doll.
(C1)

/9) Child: Rupert
Age: 1:11
Situation: Child is playing with doll
Child 1: napp (pacifier)
ny napp (new pacifier)
Mother 1 : om den e NY? (if it's new?)
eller va SA du? (or what did you say?)
(R1)

(10) Child: Rupert
Age: 1:11
Situation: Child is playing with doll
Child 1: upp (up) *Looks at empty bottle.*
Mother 1 : hon drack UPP den
(she drank it up)
dockan (the doll)
(R1)

Imitation. Imitation is sometimes used by the children in order to confirm that they have understood or at least heard what was said to them.

(11) Child: Julio
Age: 5:3
Situation: Playing with doll's furniture
Mother 1 : vi kan ju inte ha DEN framme=
=nu når vi ska ha FEST ju
(we can't have that one out=
=now that we're gonna have=
=a party, can we?)
de ser ju bara DUMT ut
(it would only look stupid)
Child 1: ja(yes)
DUMT ut (stupid)
(J05)

Language learning/teaching strategies

Language learning strategies are used by the learners - the children; teaching strategies by their mothers.

Imitation. Imitation can be carried out both verbally and nonverbally, but it is probably only when uttered verbally and vocally that it can be regarded as a language acquisition strategy. It can either be of immediate or postponed character. Verbal imitations are frequent, and they seem to be used as some kind of confirmation when the mother has given the name for some object.

(12) Child: Juan
Age: 1:11
Situation: Child picks up doll's bathtub fish
Child 1: *Picks up doll's bathtub fish.*
o:dgdena
Mother 1: *Looks at fish.*
ja va e DE? (yes what's that?)
C 2: eiga
M 2: de e ju en FISK (but it's a fish)

C 3: pit

Puts fish away.

(A4)

Vocal imitation can be used in the following way:

(13) Child: Paolo
Age: 1:10
Situation: Child is picking up teddy bear

Child 1:		*Picks up teddy bear.*
Mother 1:	oooh!	*Voice indicating this is an interesting and cute thing.*
C 2:	oooh!	*Same voice*

(CI)

This could also have been an example of a communicative strategy, had it not been for the boy's gaze being fixed upon the teddy bear. He does not look at his mother to confirm the togetherness and communication that they share.

The following is an example of postponed imitation, in this case vocal. Four salt/pepper pots go with the toy stove. Early in the recording, the mother is encouraging Juan to count the pots in a 'counting' falling intonation. He does not respond to this. Then later in the recording, after approx. 10 minutes, he takes the pots again and counts, imitating the mother's falling intonation: *Hn, hit, hn, hn.* I would like to argue that this is a kind of pre-speech language learning strategy - a preparation before the child is ready to imitate the actual words, which were at this stage too difficult.

Manipulation. The object manipulated is subject to conversation and can be a toy (or part of it) or your own or your partner's body (or part of it). As a language learning strategy it is used in a reflecting way and is not calling for a reply. In (14) the manipulation can be said to be a language learning strategy used in combination with imitation.

(14) Child: Juan
Age: 1:11
Situation: Child is playing with doll.

Child 1:		*Holds doll. Touches its ear. Looks at mother.*
Mother 1:	ja va e DE? (yes what is that?)	
C 2:		*Touches own ear.*
M 2:	dockans Öra (the doll's ear)	
C3:		*Turns doll. Touches ear number 2.*
	ce:a	
		Touches own ear. Looks at mother.
M3:	Öra ja (ear yes)	

(A3)

Naming. Some of the mothers engage more often in language teaching than others. Language teaching often takes the form of a naming strategy. In the effort to teach the children new words, the mother often takes the opportunity of naming things that are in the focus of the children's interest for the moment.

H51 Child: Juan
Age: 1:10
Situation: Child is playing with doll

Child 1:		*Caresses the doll's head.*
Mother 1:	de e DOckans hår	
	(it's the dolls hair)	
	a D1'1T hår	*Caresses boy's hair.*
	(and your hair)	
	HÅR (hair)	

(A2)

Correction. The mothers sometimes try to correct the children. This is done when the mother seems to think the child should know this word or structure. The correcting is made in a playful, sometimes mocking, way.

(16) Child: Paolo
Age: 2:10
Situation: Child is playing with doll

Child 1:	nu STAR han	*Puts down a doll.*
	(he's standing now)	
Mother 1:	mm	
	HON ... de va ju ELIsabeth	
	(she ... it's ELIsabeth you know)	
	deblirjuHON	
	(then it's a she)	
	FLIckan (the girl)	

(C9)

Check. Another way of teaching is to check whether the child knows the words for different things. This strategy is also used by the children in order to learn new words.

(17) Child: Juan
Age: 2:10
Situation: Child is picking a doll out of toy bag

Child 1:	a en FARbror	*Takes a doll out of bag.*
	(and a man)	
Mother 1:	en FARbror ocksa (a man too)	
	mm	
	va har FARbrom PA sej=	
	=for naming da?	
	(and what is the man wearing?)	
C 2:	gu:r	
	(child's version of 'skor' =shoes)	
M 2:	SKOR? (shoes?)	
	mm va har han MER/har han=	
	=bara SKOR pa sej?	
	(mm what else is he/is he only=	
	=wearing shoes?)	
C 3:	skjort ('skjorta' = shirt)	

(A18)

Instruction. Mothers often take the opportunity to add some extra information after having given the name for an object.

(18) Child: Rupert
Age: 1:11
Situation: Child is holding a sheep

Mother 1:	e de inte ett FÅR? (isn't it a sheep?)	
Child 1:	mm	*Looks at sheep.*
M 2:	såna som finns där BOrta...	
	(like the ones over at...)	
	...på KUllarna som äter GRÄS=	
	=där BOrta	
	(...on the hills who eat grass=	
	=over there)	

(R1)

I have also chosen to call instruction those cases in which mothers or children focus on special features„ such as why something is called X, when differences are noted (hot-cold, hard-soft), etc.

(19) Child: Juan
Age: 2:5
Situation: Child is playing with small animals

Child 1:	oj oj oj	
	dä ('där' = there)	*Takes toy cow.*
	titta kalv TILL (look other calf)	*Shows mother.*
Mother 1:	nä de e ingen KO (no it's not a cow)	
	vi får SE (let's see)	*Touches cow.*
	om de e MAmma (if it's mummy)	
	förstår du de/kalven e Liten	*Shows a calf.*
	(you see/the calf is small)	
	kon e STOR (the cow is big)	

(A12)

Social strategies
Social strategies seem to be very important for the mothers as well as for the children. It is essential that the mothers can make the children feel comfortable with the new situation, and both mothers and children use a number of different social strategies. Several nonverbal cues can be used, such as mimics, posture, gestures, touch, etc.

Voice. The message can be signalled by the voice - you can make yourself sound 'accepting' and willing to cooperate. Although the mothers use a typically 'child-adjusted' voice (Junefelt 1987) during practically most of the time of the recordings, I have chosen to count only especially obvious cases.

Smile/face. Smiling is a good means of confirming that 'we are together', 'everything is alright', T want to do this', etc.

Voice/face. The combination of vocal and somatic expressions of emotion and friendliness increases the strength of the strategy.

Touch/approach. Feelings of emotion, interest, or involvement are often expressed somatically by touch or posture (leaning forward, etc.). The children

may show emotion or need for closeness by clinging and manipulating the mothers.

Verbal. Emotionality can also be expressed verbally through nicknames and diminutives. Paolo's mother makes a diminutive of the boy's name by adding the Spanish ending *-ito.*

3.3.3.3 Coding of responsiveness
For the purpose of analysing the responsiveness in the dyads I have employed the IR-analysis (Initiative and Response) model (Linell & Gustavsson 1987) with the following adjustments. This analysis is based on the turn.

Adjustment of definition of categories
According to the IR-analysis, turns are being coded as being either initiatives or responses (or both at the same time). The initiatives carry forward the dialogue by either requiring a response from the partner or by the introduction of new information. The responses link together with the initiatives, creating coherence with the previous turn.

Initiatives can be either strong or weak. Strong initiatives introduce new and independent topics, explicitly demand a response from the partner, and can call for both a verbal or a nonverbal response. Strong initiatives requiring nonverbal responses are typically *imperatives;* e.g. 'Come here!'. The response is normally expected to follow immediately. In cases when a verbal response is expected, the strong initiative is typically represented by a *question.*

Weak initiatives also introduce a new and independent topic but are only implicitly requiring a response from the partner. The response may of course be both verbal or nonverbal.

Feilberg (1991) stresses that apart from verbal behaviour also nonverbal characteristics such as gaze, body movements, posture, and intonation determine whether an initiative is strong or weak. She includes vocatives, directives, declaratives, and interrogatives in the potential strong initiatives and argues further that the mere syntactic form of an interrogative does not necessarily mean we are facing a strong initiative, as exemplified by the utterance 'Shall we put the car here?', being uttered by the mother while placing a toy car on the floor. I agree with this coding, as long as there is no gaze contact and as long as the mother does not in any other nonverbal way signal that she expects a response. As weak initiatives Feilberg (ibid.) counts utterances which are suggestions comments or are of informative character.

Similar thoughts were raised already by Soderbergh (1982) in the definition of *turnpassers,* signals to the partner that the speaker is prepared to pass the turn over. Turnpassers can be either *obligatory* or *potential* (cf. strong and weak initiatives). Obligatory turnpassers are 'different kinds of question-formed utterances and certain tags which ask for information, persuade, or coax the

listener' (ibid.)- They may also be potential turnpassers combined with eye-to-eye contact or gestures. Potential turnpassers are 'different kinds of appeals to the listener made by the speaker to show that he is not just talking to himself but expects an implicit or explicit approval (or disapproval), assertion, or confirmation from the listerner or otherwise wants the listener to take an active interest in what is said and/or done' (ibid.). These are orders (often in the imperative), expressions of will, opinion, evaluation, plans (often in the form of proposals), expressions of pretend-play, attention-getters, etc.

The criteria defining obligatory and potential turnpassers are better adjusted to describe adult-child interaction than the criteria used by the IR-model since they also take into account nonverbal signals. It is however, in my view, quite possible to transfer them to govern also the coding of strong and weak initiatives, with the exception of orders. It is obligatory to follow orders, at least nonverbally (but in some cases in child-directed speech an order may require a verbal response; e.g. in 'Say mama!').

Thus a strong initiative is one which explicitly requires a response, not only in force of its purely verbal characteristics (such as being a question) but often in combination with nonverbal signals. Not any question can be a candidate for a strong initiative, though it is very likely. Weak initiatives do not explicitly require responses, but a weak verbal initiative can become strong if combined with certain nonverbal signals, such as gaze, intonation, etc. As a special kind of initiative we find repetitions or paraphrases of an earlier initiative, or (if the partner has given a minimal response) a continuation of one's own previous turn.

The IR-model further distinguishes between a number of responses, of which I will only be using a few. A response which simply fills the request and nothing else of the immediately preceding initiative is called a minimal adequate response. In other cases we find turns with signs both of initiative and of response, where the initiative may be either strong or weak.

Feilberg (1991) draws attention to the child's communicative inferiority with respect to adequacy of responses. The child lacks the knowledge, or sometimes even the wish, to give adequate responses. A response according to Feilberg is defined as follows:

1. The utterance ties on to the partner's previous utterances[1].
2. The context shows that the utterance is accepted as a response by the partner.

Feilberg's (1991) analysis is based on the utterance as a basic unit of communication, but the above definition could well be transferred to a turn-based analysis, so that 1 would read: The turn ties on to the partner's previous turn.

[1] Previous if specified as being 'not further behind than four turn exchanges'

Adjustment of number of categories

The IR-analysis model was originally developed to be used for adult data in order to e.g. capture dominance relations between interactors. In order to use the model on my child data I felt it necessary to make some adjustments[2].1 have reduced the number of coding categories. The number of categories of the original model were 18. Many of them represented a kind of turn that appeared so seldom that they could be collapsed. I was interested in the actual initiative and response characteristics of the turns, and it was therefore sufficient to malce use of a smaller number of categories, namely ten[3].

Another adjustment of the original IR-analysis model has been to change the notational system from symbols into abbreviations. Influenced by the simple notation of McTear (1985), I have chosen to code the initiatives with an I, using a plus sign (+) for strong initiatives and a minus sign (-) for weak ones (in IR-analysis > and **A**) . Responses, R in my version, include the following: R = minimal response (IR: <), R/I+ = response and strong initiative in combination (IR: <>)» R/I- = response and weak initiative in combination (IR: <**A**) . Non-responding continuations of own contributions are marked by =1+ (IR: =>) or =1- (IR: =**A**) . Non-responses, i.e. where the child (or the mother) does not show any reaction at all to an initiative, are marked by —. See also the table below.

Moreover, some turns are by the IR-analysis model characterized as 'non-turns' and are therefore not counted. These are 'turn misscarriages' (when the speaker interrupts himself before the utterance has had a chance to influence the dialogue), back-channel items, inadequate responses (a minimal response which does not give the information asked for), and inaudible items. In child data, we cannot dismiss these turns as non-turns. A 'misscarried' child utterance very often does result in a clarification request from the adult. Thus they do influence the dialogue and should be counted. Back-channel items, which are frequent in adult data, are extremely rarely used by children, (Stromqvist 1984). My experience is that when adults use back-channel items to children the child often repeats his utterance or makes an explicit request of confirmation. The child may not accept a back-channel item as a proper response, but it does indeed influence the dialogue. In yet another situation, the child will await a back-channel item before he is willing to continue, and for this reason he will repeat his utterance until a back-channel item or a confirmation is provided. Furthermore, small children make many inadequate responses, of which some are corrected with or without the help of the adult while others result in requests for clarification. Sometimes they may be accepted in spite of their inadequacy. These responses

[2] The IR analysis model has successfully been used for adult-child as well as child-child data by e.g. Mattsson & Larsson (1989) and Nettelbladt & Hansson (1990).

[3] The original model argues that it is impossible to construct a coding model to suit every purpose. It is admitted that in some cases the original model will appear to be too differentiated (or not enough), and that it should be possible either to collapse or further elaborate the categories.

most certainly influence the dialogue. I have made the adjustment of taking into account 'turn misscarriages', back-channel items, and inadequate responses.

I have thus chosen to use the following number of categories, with the following symbols the original IR symbols are also given:

Category	Symhol	IR-svmbol
Strong initiative	1+	>
Weak initiative	I-	**A**
Response with strong initiative	R/I+	<>
Response with weak initiative	R/I-	**<A**
Minimal response	R	<
Continuation of own s. initiative	=l+	=>
Continuation of own w. initiative	=1-	**=A**
Non-response		
Interrupted utterance	X	X
Back-channel item	B	b

Examples of codings

Strong initiatives (I+):

(20). Child: Juan
Age: 3:10
Situation: Topic about baby doll just closed by child.
Mother introduces new topic in M1:

1+	Mother 1:	du har dom en BONDgård här?	*Touches animals.*
		eftersom dom har DJUR?	
		(do they have a farm here?	
		since they have animals?)	
R	Child 1:	ja(yes)	*Touches animals.*

(21) Child: Paolo
Age: 3:10
Situation: M and C are looking at grandmother doll.
Child introduces new topic by a strong initiative in C2:

I-	Mother 1:	de liknar mormors SKOR/såna=	
		=SKOR hade mormor	*Shows doll.*
		(it looks like grandmother's shoes/=	
		=grandmother used to have shoes=	
		=like tbat)	
R	Child 1:	mm	*Picks up another doll.*
R/I-	M 2:	mm de HAde hon (yes she had)	*Touches doll.*
1+	C 2:	titta går de att SVÄnga	*Turns doll's head around.*
		(look can you turn it)	(C11)

Weak initiatives (I-):

(22) Child: Juan
Age: 2:10
Situation: Boy is playing with a diaper package. Mother starts undressing doll.

I-	Mother 1:	titta HÄR va en blöja ju	*Opens doll's trousers.*
		(look here's a diaper)	
R	Child 1:	utta (look)	

(A18)

(23) Child: Paolo
Age: 2:4
Situation: Topic of cooking not closed. Boy introduces new topic through CI.

1+	Mother 1:	du har lagat MAT ja?	
		va E de for mat?	
		e de KOTTbullar?	
		(you've been cooking yes	
		what is it?	
		is it meatballs?)	
I-	Child 1:	(…)	*Looks into bag.*
		de dockan	*Pulls doll out.*
		(that the doll)	
R	M2:	diireDOCKanja	
		(there's the doll yes)	

(C7)

Minimal response (R): See C2 in (20) above.

Minimal child responses are often confirmed by the mothers by an extra minimal response (cf. Feilberg 1991). Both turn CI and M2 in (24) below are examples of minimal responses.

(24) Child: Juan
Age: 2:10
Situation: M and C are looking at a doll's bathtub.

R/I+	Mother 1:	nae va HEter de som MORmor har=	
		=a FARmor a FARfar har?	
		(what is it called that grandmother has=	
		=and that grandmother and grandfather have?)	
		bad-... (bath ...)	
		…-KAR (...tub)	
R	Child 1:	badkar	
R	M2:	ettBADkaredeja	
		(yes it's a bath tub)	

(A18)

Responses with strong (R/I+) or weak (R/I-) initiatives:

(25) Child: Juan
Age: 2:4
Situation: Child is cooking on toy stove. M2 is coded as R/I+. whereas CI and *C7* arr. R/I-'s.

1+	Mother 1:	ska du MAta bebisen da?	***Places baby doll in pont of C.***
		(are you gonna feed the baby?)	
R/I-	Child 1:	taitic (tatoes)	*Puts food' on plate.*
R/I+	M 2:	ska hon ha poTAtis?	
		(is she having potatoes?)	
R/I-	C 2:	ja (yes)	*Serves.*
		komo taitic (come tatoes)	*Serves.*
R	M3:	jaHA nu kom de poTAtis	
		(I see, here comes potatoes)	
		mm	

(A 12)

Non-responding continuations of an own previous contribution are coded as =1+ or =1-. In (26) the mother is using an =1+ in order to make the child stick to his

original topic a little longer. After her weak initiative of M1 did not get a response she is now trying a strong inidadve (M2).

(26) Child: Juan
Age: 3:10
Situation: Child presents a motorcycle to mother. Turn M2 is coded as =I+.

I-	Child 1:	åååMOtorcykel	*Picks it out of bag.*
		mm	*Puts it down.*
R/I-	Mother 1:	e där en MOtorcykel?	
		(is it a motorbike?)	
		vikken häfti du	
		(that's really something)	
I-	C 2:	åååå	*Takes a piano out of bag.*
=1+	M 2	VEMS motorcykel uor du de e?	
		(whose motorbike do you think=	
		=it is?)	

(A25)

A continuation of one's own contribution is not always non-responding. It is also often used after a minimal response in order to show that the topic is not yet to be concluded. Turn M2 below is a strong continuation of its previous turn, whereas turn C3 is a weak continuation. Turns CI and M3 are minimal responses.

(27). Child: Juan
Age: 3:10
Situation: C and M are trying to make a grandfather doll ride the motorcycle.

1+	Mother 1:	tror du FARfar kan köra MOtorcykel?	
		(do you think grandfather can ride a=	
		=motorcycle?)	
R	Child 1	ja	*Holding grandfather.*
=1+	M 2:	VÅgar han de?	
		(does he really dare?)	
R/I-	C 2:	mm	
		de VET ja (I know that)	*Holding grandfather.*
R	M3:	mm	
=1-	C3:	den HÄR farfarn kan de	*Holding grandfather.*
		(this grandfather can do it)	

(A25)

Addition of nonverbal behaviour

I have also added nonverbal communication to the IR-model, something which is lacking in the original version. This was not an unproblematic procedure, as it involved deciding the force of a child's nonverbal intentional behaviour, i.e. deciding whether a nonverbal child initiative was to be coded as strong or weak. This could not be judged from the transcriptions only; the answer had to be sought in the videotapes, where direction of gaze, orientation of body, gestures, and partner's behaviour (if the partner responds), etc. were used to make the decision. Feilberg (1991) also mentions change of voice intensity as a sign of a strong initiative.

The following are examples of strong somatic initiatives:

(28) Child: Juan
Age: 1:10
Situation: The first recording with the 'silent' child.
Boy and mother are dressing a doll.

	Mother 1:	har du SETT?	*Pulls doll's trousers.*
		(look at this=	
		= lit. have you seen?)	
		har du SETT?	
		ska vi ta på en BLÖja?	*Takes old diaper off.*
		(shall we put on a diaper?)	
		ska dockan HA blöja?	*Takes new diaper. Waits.*
		(is the doll going to wear a=	
		=diaper?)	
R/I+	Child 1:		*Takes M's liand. Wants her to continue*

(A1)

(29) Child: Paolo
Age: 1:10
Situation: Boy and mother have found a pair of doll's shoes.

I-	Child 1:	pato (shoe, fr. Sp. zapato)	*Takes shoe.*
R	Mother 1:	si (yes)	
=1+	C 2:	de d0j (I give you)	
		da pa:ti (I give to you)	
		pa:ti *do* (to you I give)	*Gives shoe to mother.*
R/I+	M 2	ska vi hjälpa henne me=	
		=SKORna?	
		(shall we help her with=	
		=the shoes)	
=1-	C 3:	pa:to (shoe)	

(CI)

Weak somatic initiatives:

(30) Child: Juan
Age: 1:10
Situation: The first recording with the 'silent' child. The boy is picking toys out of a bag. All child turns are examples of I-'s or R/I-'s.

I-	Child 1:		*Takes toy bottle out of bag.*
			Turns bottle upside down.
R/I-	Mother 1:	TIttaja (yes look)	*Whispers.*
		de e V Ailing (it's gruel)	
=T	C 2:		*About to put bottle into mouth.*
			Stops.
R/I+	M 2:	oja PROva (oh yes try it)	
=1-	C 3:		*Hesitates. Looks at bottle.*
R/I+	M3:	PROva (try it)	*Smiles.*
		PROva	*Takes boy's hand; moves it towards mouth.*
R/I-	C 4:		*Puts bottle into mouth.*

(A1)

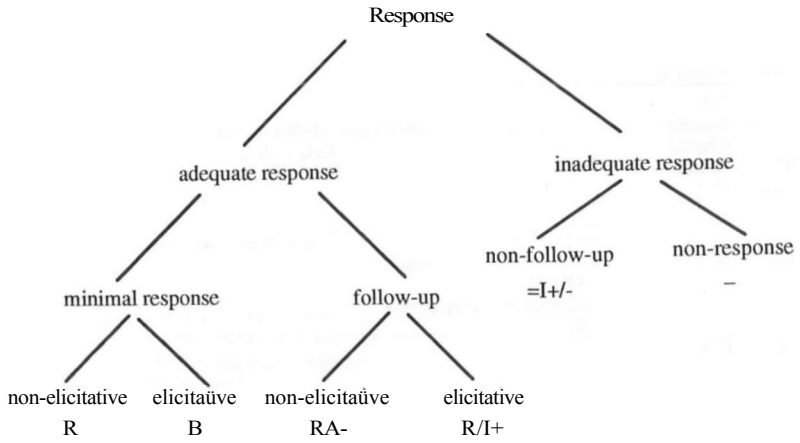
Another difficult situation was to decide whether a somatic turn should be coded as a weak initiative or a continuation of a previous turn of one's own. The above-mentioned direction of gaze, orientation of body, gestures, and partner's behaviour were again useful tools. If the old focus of interest (topic of conversation) was kept, an initiative was coded as a continuation of one's own

previous turn (=1+ or =1-). If the focus had changed, it was regarded as a new, fresh initiative (1+ or I-).

Adequacy of responses

In Chapter 3 the question of adequacy of responses was raised. It was argued that, with a broad interpretation, adequacy would be equated with responsiveness. The categories of the IR-analysis fit well into this classification: see figure 3.1, which can be regarded as an expansion of figure 2.4.

Figure 3.1 Responses and IR categories.



3.3.3.4 Coding of utterance function and form

As a means to investigate the mutual influence between mother and child I have studied the utterance functions, based on the behaviour in all channels of communication - verbal, vocal, and somatic as well as verbal-somatic and vocal-somatic.

Utterance form - interrogative, declarative, or imperative - was only used for verbal and vocal utterances.

The function and form analyses are based on the 80 first rums of both mothers and children, which corresponds to 120-150 utterances and 5-8 minutes of interaction. The studies are based on the utterance. As argued earlier (see 3.3.2), a turn can consist of several utterances produced in different channels. A whole turn can constitute a response, following the responsiveness study. The response can, however, consist of several utterances, all of which have different functions.

Utte ran ce fun ction

The utterance function categories represent different interactive acts, such as requests, statements, descriptions, confirmations, etc. In some instances the categories will appear not to be mutually exclusive (e.g. request identity may be seen as a subcategory of request information). However, since the purpose of this analysis is to identify 1) possible differences between IA and non-IA dyads and 2) possible different interactive styles of IA mothers and children, this division between categories is motivated: It will allow for the possibility to distinguish between e.g. teaching type mothers - who may spend much time on giving and requesting the identity of objects - and informative mothers - who will rather give or request a lot of information about the objects, as well as request confirmation when something is unclear.

The following main functions were used: the intellectual/cognitive function (providing and requesting), the regulative function, the nonverbal vocal, and the nonverbal somatic function. All functions will be discussed in more detail below.

la. Intellectual/cognitive function - provide

a. Provide identification. Give the name of an object or quality: 'That's an X'; 'This shirt is red'.
b. Provide information. Give general information, as in 'It's too early to go to bed' or 'Now little Teddy is asleep'.
c. Provide confirmation. Confirm your partner's utterance or your own utterance. Confirmation of self is sometimes used by the mother when the child does not answer. Confirmations can be either expanded ('Yes, you can jump') or minimal ('Yes').
d. Provide refusal. The opposite of confirmation.
e. Provide imitation of partner's previous utterance.
f. Provide evaluation of partner's behaviour. Comments such as 'good', 'well done' etc.
g. Provide social utterance. E.g. greetings, 'thank you'.
h. Provide interjection. Exclamations such as 'oh no!' (a doll's table falling over, etc.).

lb. Intellectual/cognitive function - request

a. Request identification of object or quality: 'What's that?', 'What colour is this?'
b. Request information. Ask for general information, as in 'What's she doing?' or 'Who's going to wear this little sweater?'.
c. Request action: 'Put the shirt on'; 'Sing a song for the doll'.
d. Request confirmation. Used mainly by the mother when something is unclear or otherwise needs confirmation: 'Shall I feed the doll?' when the child is reaching the doll's bottle to the mother. Also used for 'dressing up' the child's incomplete or unclear utterances: 'Are you feeding the doll, are you?' as the response to the child's feeding, with or without accompanying sounds, or to a child utterance such as 'Doll food'.
e. Request imitation: 'Can you say X?'

2. Regulative function

a. Regulation of attention. The use of e.g. the partner's name or utterances like 'look!', T tell you what', etc. Also use of touch in order to get/keep his/her attention.

b. Regulating partner's behaviour, such as 'sit down', 'come here', 'don't do that', or performing corresponding function non-verbally such as turning the child towards yourself, etc.

3. Nonverbal vocal function

a. Mirror. 'Dressing up' the partner's somatic behaviour vocally. E.g. child is driving motor bike - mother makes driving noises.

b. Illustrate. Vocal illustration of own activity. Making smacking sounds or saying 'yum yum yum' when feeding a doll.

c. Vocal play. In some cases a vocal utterance has no connection to what is going on, but seems to be used merely for the fun of it, even by a mother. An example of this is a whispering 'poko poko poko', used by Juan's mother.

d. Laugh.

4. Nonverbal somatic funtion

f. Smile

g. Neutral face

j. Somatic assistance. E.g. helping out in dressing the dolls, without saying anything.

Utterance form

The utterance's syntactic form can also give valuable information about reciprocity - how one partner's behaviour may be reflected in the other's. Again, based on the 80 first turns of the selected recordings, I have counted the number of *declaratives, interrogatives, and imperatives* produced. I have also counted all one-word utterances, ellipses, interruptions, etc. which because of their incompleteness could not be referred to any of the above forms. The features can of course only be assigned to verbal utterances, and therefore the somatic utterances are not included in the analysis.

3.3.4 Methodological constraints

It is of course beyond the competence of one single researcher to capture the total communication - every single sound and movement that could serve as a potential communicative device - and I do not claim to have done that. No doubt I may have lost details that did in fact influence the communication in specific situations. Covering a variety of different interactive aspects, however, I believe that the present study will as the first of its kind give a good description of the interaction in dyads with mothers and IA children.

Inter-observer reliability scores were calculated on five-minute episodes of six recordings selected to provide a representation of all children at different ages

and representing different interactive styles. The inter-observer reliability scores were the following:

IR-codings	77-88% (mean 82%)
Strategies	
mothers	62-81% (mean 70.2%)
children	58-79% (mean 65.8%)
	61-85% (mean 76%)
Functions	
mothers	81-93% (mean 86.8%)
children	78-97% (mean 88.8%)
	75-95% (mean 84.6%)
Segmentation and transcriptions	85-100% (mean 95.9%)

As a further measure of reliabilty we can compare the inter-observer agreement ot some other studies of mother-child interaction:

Study	Scores	Based on
Brumark (1989)	78-98%	Five recordings, each 8 minutes
Feilberg (1991)	87-92%	'Selected parts of all children and all stages'
Junefelt (1987)	88-100%	2 minutes from one recording
Nettelbladt&Hansson(1990)	73.9	12 of 15 recordings of 15 minutes

My own self-consistency over time (6-24 months) amounted to around 90% (depending on the study in question). In the cases in which I decided to change the codings this did not always influence the final results. Whenever a change of the coding according to the IR-analysis was undertaken there was never any doubt whether a turn was to be coded as an initiative or a response, but rather what kind of initiative or response. Consequently, the change did not affect the degree of responsiveness. The codings of channels of communication were not changed; neither were the strategy codings. The function codings were most often subject to change over time, especially the codings of the non-verbal functions of the children's utterances, but this was mainly due to the model's development. Never, however, did I change over the four main group borders.

4 Results and discussion

This chapter consists of five sections highlighting the development of different interactive abilities and capacities, from the more intra-individual mean lengths of the units of communication toward more inter-individual aspects such as responsiveness and use of utterance functions.

Section 4.1 deals with mean lengths of utterances, turns, topical strings, and levels of interaction. In 4.2 the proportions of utterances and topical strings and levels of interaction are discussed, and the children's development from mainly non-verbal to dominantly verbal is presented and commented upon.

In section 4.3 the strategy use of both children and mothers is presented in a developmental perspective. Section 4.4 deals with responsiveness development under various conditions.

The last part, 4.5, presents a study focussing on how children's behaviour is reflected in maternal behaviour and vice versa in terms of the use of different utterance functions and syntactic form of utterances.

All results in this chapter are based on the first 15 minutes of each selected recording unless otherwise indicated.

4.1 Mean lengths

A number of interesting measures concerning the mean length of utterances, turns, topical strings, and levels of interaction can be made.

4.1.1 Mean length of utterance (words)

MLU (mean length of utterance) has been regarded as a tool for measuring linguistic matureness and competence in children (Brown 1973) and argued to be a better predictor of grammatical development than age. Up to the age of four, or up to an MLU of 4 morphemes (Klee & Fitzgerald 1985), it is regarded as a better basis for comparison between children than age, since children start to talk at such varying ages. MLU values can be calculated both for morphemes, syllables, and words. The MLU in morphemes as a cross-linguistic measure has

been criticized, since there is some disagreement between researchers on how to count morphemes (Feilberg 1985). Furthermore, some languages are less rich in morphemes than English and some more, which also complicates cross-linguistic comparisons.

I will count the MLU values in words, as has been proposed by Arlman-Rupp et al. (1976), who argue that this is 'faster, easier, more reliable, and theoretically more justifiable than counting morphemes'. Hickey (1991), who has found high correlations between MLU as counted in morphemes, words, and syllables. Hickey stresses that counting MLU in words is 'not burdened by decisions concerning productivity and morphemic status'; i.e. the question of deciding when a morpheme has become productive and what should be counted as one morpheme. In a cross-linguistic perspective we could argue that the word is also an inappropriate unit, considering the structure of polysynthetic languages. Since my study concerns only one language - Swedish -**1** have chosen to count the number of words per utterance:

Table 4.1 Word MLU, including maximal lengths (within []).

	Months after adoption 0	6	12	18	24
Juan, [1:10]* Age:	1:10	2:4	2:10	3:4	3:10
C(hild)	–**	13 [3]	1.2 [6]	3.2 [12]	3.2 [9]
M(other)	3.5	5.1	5.5	5.6	5.4
Paolo, [1:10] Age:	1:10	2:4	2:10	3:4	3:10
C	1.1 [2]	1.8 [4]	2.7 [7]	2.5 [7]	3.2 [8]
M	3.6	4.5	4.0	4.9	4.8
Sergio, [1:10] Age:	1 • 11* **	2:4	2:10		3:9
C	1'0 [1]	1-1 [3]	1.8 [5]	-	2.5 [9]
M	3.4	4.5	5.2		5.0
Julio, [4:3] Age:	**4·5******	4:9	5:3		6:3
C	13, [2]	1.4 [4]	1.4 [4]	-	1.9 [6]
M	3.8	4.5	4.5		4.3
Guiller., [0:8] Age:	1:10*****				**4.Q********
C	L8 [5]	-	-	-	33 [10]
M	4.5				5.4
Rupert, [Sw.] Age:	1:11				3:11
C	1.3 [3]	1.9 [6]	3.7 [10]	-	3.2 [9]
M	4.4	4.2	4.8		4.9

* Age on adoption
** J was silent in the first recording
*** 1 month after adoption
**** 2months after adoption
***** 14 months after adoption
******* 40 months after adoption

As could be expected, the MLU increases over time for all children. Also, the Swedish non-adopted boy Rupert and Guillermo, who was adopted already at the age of 8 months, have longer MLU's than the other boys have immediately after adoption at the age-matched recordings. In Rupert's last recording we have the

rare case of an uncooperative child. He is reluctant to speak and consequently his MLU decreases. All four-year-old boys except Sergio have however reached very similar MLU values at the end of the study.

There are also differences regarding maximum lengths of utterance. At the age of almost 2 years Rupert and Guillermo can produce longer utterances than the recently adopted boys. After one year, however, Juan, Paolo, and Sergio seem to have caught up with them, at least as far as maximum lengths are concerned; but not Julio, who was adopted at 4:3. Not even after two years in Sweden has he progressed very far, neither with respect to MLU nor maximal utterance length. In the following it will become evident that Julio's verbal development is delayed when compared to his age mates.

All mothers increase their MLU's over time in accordance with the children's progress without any remarkable exceptions. Also, the mothers of recently adopted children produce shorter utterances than Guillermo's and Rupert's mothers. This difference disappears during the first year.

4.1.1 Mean length of turn

Turn length, as measured in utterances, has been used by e.g. Cross (1977). Comparisons with my results cannot be made, however, since I have included nonverbal utterances in the analysis.

The figures alone do not say much. What really counts is the *difference* between the child's and mother's figures, which will reveal the relation of dominance in terms of number of turns produced. Figures should not be compared between the different dyads; however, the developmental trend within each dyad will be obvious: The children learn to produce longer and longer turns, interestingly enough at the expense of the mothers' turn length. Furthermore, the difference in turn length between mothers and children decreases over the two-year period.

The figures of Table 4.2 show that the difference in mean length of turn for an utterance is greater in dyads with recently adopted children. This difference then diminishes over time. In the case of Guillermo (the boy who was adopted at 8 months), the difference between child and mother at the same age as the other adopted boys is much smaller, and after the corresponding two years he is actually the boy who is producing the longest turns. Still the difference is not very big, so conversational balance is maintained. For the Swedish child, Rupert, we can note the same. He is already at the age of 1:11 producing the longest turns. This is probably the result of the fact that mother and child know each other well, and therefore the boy does not need so much interactive support. The mothers of the recently adopted children (Juan, Paolo, Sergio, and Julio) on the other hand talk more initially, both in order to make themselves understood and in order to activate the children and encourage them to speak or do things. After two years the differences have diminished considerably. Note, however, that Rupert's dominance turns to a maternal dominance in the last recording where Rupert is extremely uncooperative.

Table 4.2 Utterances per turn, including differences.

		Months after adoption 0	12	24
Child				
Juan,[1:10]	Age:	1:10	2:10	3:10
C		1.37	1.43	1.46
M		2.07	1.76	1.57
diff.		*0.70*	*0.33*	*0.11*
Paolo, [1:10]	Age:	1:10	2:10	3:10
C		1.38	1.65	1.59
M		2.41	2.35	1.53
diff		*1.03*	*0.70*	*-0.06*
Sergio, [1:10]	Age:	1:11*	2:10	3:9
C		1.26	1.49	1.69
M		2.19	2.00	1.80
diff.		*0.93*	*0.51*	*0.11*
Julio, [4:3]	Age:	4:5**	5:3	6:3
C		1.53	1.79	1.51
M		2.01	1.99	1.54
diff.		*0.48*	*0.20*	*0.03*
Guillermo, [0:8]	Age:	1:10***		4;0***+
C		1.58	-	1.79
M		1.74	-	1.67
diff.		*0.16*	-	*-0.12*
Rupert, [Sw.]	Age:	1:11	2:11	3:11
C		1.86	1.71	1.53
M		1.82	1.39	2.45
diff.		*-0.04*	*-0.32*	*0.92*

*1 month after adoption ** 2 months after adoption
• 14 months after adoption **** **40** months after adoption

4.1.3 Mean length of topical strings

Mean length of topical strings is measured in number of turns per topical string. This is a measure used by e.g. Soderbergh (1980) using the term 'dialogue chain' and Feilberg (1991), who calls an initiative introducing a new topic a 'global initiative'. It focusses on for how many turns the same topic is carried on. It has been emphasized by Willumsen (1986) that it is not always clear when we have a change of topic. Feilberg (1991) has used as a criterion that change of topic is made whenever the child or the adult changes his or her focus of attention. Furthermore, pauses, direction of attention, and other nonverbal behaviour will assist in deciding whether or not a change of topic is present, so consequently this

(as all other) coding must be made while watching the video films, not from reading the transcripts. Using the IR-analysis, we find that a new topic is *always* introduced by a fresh initiative, strong or weak, whereas it *may* be introduced by a responding initiative, since it is possible to change topic within a turn (for definitions of initiatives, see chapter 3).

Table 4.3 Mean length of topical strings.

		Months after adoption 0	12	24
Juan, [1:10]	Age:	1:10	2:10	3:10
C		6.6	6.2	4.7
M		4.7	4.2	4.7
dyad		6.3	5.6	4.7
Paolo, [1:10]	Age:	1:10	2:10	3:10
C		4.4	3.9	4.2
M		6.9	6.2	5.4
dyad		6.0	4.6	5.1
Sergio, [1:10]	Age:	1:11*	2:10	3:9
C		6.2	5.1	4.5
M		2.7	3.9	2.8
dyad		4.5	4.6	3.8
Julio, [4:3]	Age:	4:5**	5:3	6:3
C		5.9	4.3	6.7
M		3.9	3.7	6.5
dyad		4.9	4.0	6.7
Guilliermo, [0:8]	Age:	1:10***		4.0**+*
C		5.5		7.5
M		5.1		3.8
dyad		5.4		6.5
Rupert, [Sw.]	Age:	1:11	2:11	3:11
C		7.6	5.1	4.7
M		6.8	6.0	3.7
dyad		7.4	5.3	4.2

* 1 month after adoption ** 2 months after adoption
*** 14 months after adoption **** 40 months after adoption

The mean lengths of topical strings results are presented in Table 4.3. The mean lengths are given of topical strings initiated by either child or mother as well as for the dyad as a whole. There appears to be no tendency at all toward an increased length of topical strings over the two-year period of the study. Only one dyad, Guillermo and his mother, does increase its figures. The other dyads either remain at the same level (Paolo and his mother) or even decrease the length of their topical strings (Juan, Sergio, Julio, and Rupert with their mothers). One pattern is however stable over time for all dyads: it is either the child or the mother who introduces the longest topical strings, and over the two-year period it is the same person in each dyad who is the introducer of the longest strings, except in Rupert 12. In all dyads except Paolo and his mother it is the child who introduces the longest topical strings.

A measure such as mean length of topical strings is probably very sensitive to situational factors such as mood, interest, motivation to play and talk, etc. All these factors do of course influence the mean lengths of utterance and also turn, but not to the same extent. The mean length of topical strings is probably better suited to measure progress in verbal language - to show how children advance in their ability to stick to one subject and to develop it - than to total communication. On the other hand, using the measure on total communication reveals that - albeit not very advanced verbally - small children can, and do, stick to the same subject for long stretches of utterances.

4.1.4 Mean length of levels of interaction

We saw in 4.1.3 that the mean length of topical strings was perhaps not an appropriate tool when trying to establish children's presumably increasing participation in the interaction. As an alternative method I have analysed the data according to the different levels of interactive participation and attention (cf. 2.2.1). I have thus counted the number of successive turns on different interactive levels in each recording for each child, as well as the length of the strings of turns.

This procedure yielded the results shown in table 4.4, which presents a development towards a larger proportion of interaction on the highest level, i.e. with an unbroken exchange of ideas and intentions. In contrast, the proportions on level 2, where the mother acts as an interpreter of the child's behaviour, and 3, where either the mother or the child is producing more or less monologue-like speech, are decreasing. We can also notice that the dyad's choice of interactive level is dependent on communicative acquaintance, since all adopted boys regardless of age on adoption initially produce smaller proportions of level 1 than Guillermo and Rupert, who have spent a longer time in Sweden. They do not reach Guillermo's or Rupert's proportions until later on. Julio reaches high proportions already six months after adoption, so obviously linguistic proficiency is less important than communicative with regard to the ability to maintain interaction. It is also interesting to notice that there are no turns at all on level 3 in the first recording with Juan, the silent boy, or with Sergio, who is also very quiet. Obviously their mothers must feel that they cannot use level 3, since it would almost be rude to make very long verbal turns in front of somebody who cannot contribute at all. Similarly, they do not let their boys go on and make too long nonverbal turns either, because the silence would probably be disturbing. Instead, they are using level 2 while interpreting the boys' nonverbal turns.

Table 4.4 Levels of interaction per turn in percentages.

Dyad:	Age:	Months after ad.:	Level: 1	2	3
Juan, [1:10]	1:10	0	32	68	-
	2:4	6	50	38	12
	2:10	12	45	51	4
	3:10	24	85	14	1
Paolo, [1:10]	1:10	0	33	52	15
	2:4	6	22	74	4
	2:10	12	59	32	9
	3:10	24	80	10	10
Sergio, [1:10]	1:11	1	5	95	
	2:04	6	32	64	4
	2:10	12	48	45	7
	3:9	23	89	6	5
Julio, [4:3]	4:5	2	32	64	4
	4:9	6	69	10	21
	5:3	12	73	22	5
	6:3	24	96	3	1
Guillermo, [0:8]	1:10	14	72	24	4
	4:0	40	97	2	1
Rupert, [Sw.]	1:11	-	47	46	7
	2:11	-	66	27	7
	3:11	-	76	7	17

Table 4.5 presents the mean lengths of the strings of turns on different levels of interaction. In some cases, and sometimes with a striking marginal, it appears that the mean lengths on level 1 are increasing over time. The mean string lengths on level 2 are fairly stable for all boys except Paolo and Sergio. This is interesting to note, and as we will see further on in chapter 4.5, Paolo and Sergio appear to be the two children who are at least initially most difficult to understand. This behaviour is however of limited duration, and already after one year in Sweden they have reached mean lengths similar to those of the other boys. Level 3 is used with low mean lengths in all dyads, since this is not really interaction but monologues or parallel contributions.

There are large variations between the dyads, with Guillermo and Rupert representing the extremes. Guillermo's high figures can be explained by his very high motivation to participate and by the overall cooperative style of this dyad. In Rupert's case we find another pattern. In the second recording he prefers playing with a motorcycle and in the third recording he does not want to do anything. This results in a frequent change of levels - when his mother is trying to persuade him (on level 3) and when he is arguing with her (on level 1). Nevertheless, his mean lengths on level 1 are increasing.

The difference between measuring mean lengths of topical strings vs. proportions and mean lengths of interaction on different levels is that the latter method allows for shifts in topic of communication. You may discuss a number of different topics while staying on the same level of interaction. What is important is that you actually exchange turns, and that this exchanging activity is unbroken. The shifting of topics does not mean that you are unable to keep up the communication, but the shifting or not shifting of topics is highly dependent on the situation and the activity. The level chosen for communication and the length of time a dyad stays on the same level is certainly sensitive to the situation (cf. Rupert above). However, since the proportion of level 1 is increasing in all dyads, it is highly probable that the increase is caused by a growing linguistic and communicative proficiency.

Also, as has been pointed out by e.g. Willumsen (1986), the changes between different topics can sometimes be difficult to identify. In this respect the identification of different interactive levels is a less troublesome measure.

Table 4.5 Mean lengths of turn strings on different levels of interaction.

Dyad:	Age:	Months after ad.:	Level: 1	2	3
Juan, [1:10]	1:10	0	4.6	6.6	-
	2:4	6	10.4	9.1	4.5
	2:10	12	8.4	10.1	3.5
	3:10	24	30.0	6.1	1.5
Paolo,[1:10]	1:10	0	11.6	11.3	5.1
	2:4	6	6.6	24.9	3.3
	2:10	12	8.1	5.3	5.8
	3:10	24	19.3	4.8	3.3
Sergio, [1:10]	1:11	2	4.3	62.7	-
	2:4	6	5.5	11.3	1.6
	2:10	12	6.5	6.5	2.6
	3:9	24	22.9	3.8	1.9
Julio, [4:3]	4:5	2	6.4	11.3	2.0
	4:9	6	10.0	3.8	3.5
	5:3	12	18.3	7.0	2.2
	6:3	24	41.1	3.3	1.0
Guillermo, [0:8]	1:10	14	43.3	5.0	5.0
	4:0	40	58.0	6.5	2.0
Rupert, [Sw.]	1:11	-	5.8	5.5	2.4
	2:11	-	9.5	4.6	2.6
	3:11	-	14.2	6.0	2.8

4.1.5 Words and utterances per minute

As a further measure of increased competence and fluency the number of words and utterances per minute were measured on three occasions - immediately after adoption, after one year, and after two years in Sweden. These results are presented in table 2 in the Appendix.

The number of words per minute shows an increasing trend for all of the children except Rupert, who did not cooperate in the last recording. Juan's and Sergio's mothers increase their number of words per minute, whereas the other mothers use a fairly stable number of words per minute (around 50-70). A11 dyads increase their common numbers of words per minute except Rupert and his mother (because of Rupert's unwillingness) and Julio and his mother (where the mother started off with a relatively high number of words per minute - 74.5 - which did not increase).

The number of utterances per minute does increase for all children, with the exception of Rupert, if we compare the first and the last recording, and they reach very similar numbers of utterances per minute (14-18). Sergio and Julio show moderate dips after one year in Sweden. Only two mothers - Juan's and Guillermo's - increase their number of utterances per minute from the first to the third recording, and they in fact started off with lower numbers than the other mothers. At the end of the study all mothers also produce 14-18 number of utterances per minute. The mean figures for the dyads are increasing for Juan and Guillermo and decreasing for the rest, when comparing the first and the last recordings.

4.2 Proportions

Measuring the percentage of the dyad's total utterances will reveal the child's probable increasing proportion of the total communicative situation. The proportions of topical strings reveal who is introducing the different subjects of communication in the dyads. The percentage of each partner's own utterances per channel of communication shows how the children immediately after adoption choose one or two channels of communication and how this behaviour develops into a more varied but predominantly verbally channelled communication.

4.2.1 Proportions of dyad's utterances

A comparison of the different dyads with regard to proportions of utterances is presented in table 4.6. Such a comparison shows that Swedish children and children adopted at an early age, who are therefore well acquainted with their mothers, contribute a greater proportion of the number of utterances produced

in the dyad. We can also see that with small deviations and for all children, the development is towards a greater proportion on the children's behalf at the expense of the mother's contributions. This holds with one exception - the last recording with Rupert, where the boy is extremely reluctant to cooperate.

Table 4.6 Proportions of dyad's total utterances.

		Months after adoption				
		0	6	12	18	24
Juan	C	42	50	45	43	48
[1:10]	M	58	50	55	57	52
Paolo	**c**	38	46	47	46	51
[1:10]	M	62	54	53	54	49
Sergio	**c**	36*	53	42		49
[1:10]	M	64	47	58	-	51
Julio	**c**	43**	62	47		50
[4:3]	M	57	38	53	-	50
Guilliermo	**c**	4g***				53****
[0:8]	M	52	-	-	**-**	47
Rupert	**c**	50	53	52		38
[Sw.]	M	50	47	48	-	62

* 1 month after adoption
** 2 months after adoption
*** 14 months after adoption
**** 40 months after adoption

4.2.2 Proportions of topical strings

Measuring the proportions of the number of topical strings of the dyad enables us to see who in the dyad is introducing new topics of conversation. The results are given in table 4.7.

In a majority of the cases it is the child who introduces a dominating proportion of topical strings. In a couple of cases we find a pattern where mother and child introduce approximately 50% each of the topical strings (Sergio's and Julio's first and Rupert's last recording). Is this because the mothers are behaving dominantly or is the reason to be found in the child's behaviour? In Rupert's case we can see that earlier this dyad is keeping to the first pattern, with child dominance. We also know that in the last recording Rupert is highly unwilling to cooperate, so at least in this case it is the child's behaviour that influences the mother's.

Sergio is initially less communicative than the rest of the children and prefers to play on his own. This behaviour is also reflected in table 4.3, where Sergio is found to be able to keep a topical string for a long time. His mother, however, cannot - the boy does not respond to her, so she must introduce a new topic.

In the case of Julio, we know that he is not very advanced verbally and needs a lot of support. After two years in Sweden, however, a pattern more similar to that of the other boys appears. Now he does not need as much support as earlier. From table 4.3 we can however see that whenever he introduces a topic, this string is kept for a longer number of turns than a string introduced by his mother.

Table 4.7 Proportions (percentages) of topical strings as introduced by child or mother.

		Months after adoption 0	12	24
Juan	C	86	69	72
[1:10]	M	14	31	2!!
Paolo	C	78	70	81
[1:10]	M	22	30	19
Sergio	**c**	52*	57	59
[1:10]	M	48	43	41
Julio	**c**	51**	54	74
[4:3]	M	49	46	26
Guillermo	**c**	78***	-	74****
[0:8]	M	22	-	26
Rupert	**c**	65	83	51
[1:10]	M	35	17	49

* 1 month after adoption
*** 14 months after adoption
* 2 months after adoption
**** 40 months after adoption

4.2.3 Proportions of own utterances

According to the principles presented in Chapter 3, utterances were coded according to channel of communication. In figures 4.1-4.6 below, based on tables 1a-f in the Appendix, the development of the percentage of own utterances per channel of communication is presented for each child in the study. It can be seen that the children choose different communicative starting points, such as a silent period and many somatic signals, verbal with a large proportion of Spanish and few somatic signals, verbal start (consisting mainly of imitations) together with many somatic signals, etc. For corresponding figures reflecting maternal behaviour see figures 2a-f in the Appendix.

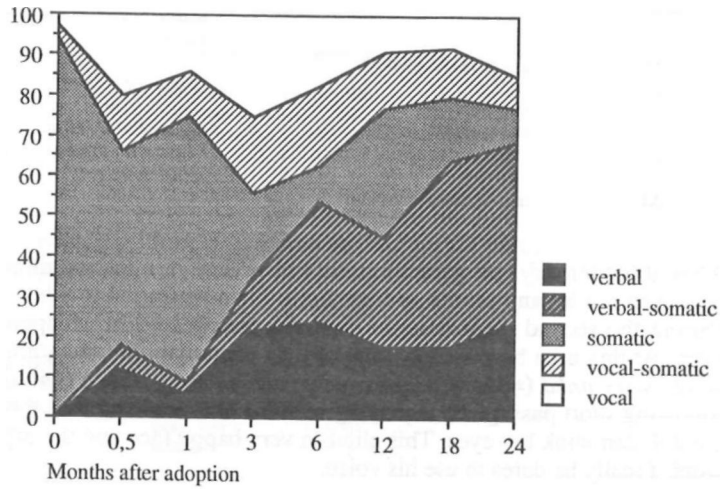
Juan

The development of Juan's use of different channels of communication is presented in figure 4.1 (cf. table 1a in the Appendix).

It is common for adopted children to remain silent for a period of time directly after the adoption. In the Berntsen & Eigeland study (1986) 14% of the children

were reported to be totally silent during their first weeks in the new family; 22% talked or babbled only a little. This period usually lasts for a couple of weeks, but can be both shorter or longer. From the above figure it is obvious that Juan is having a 'silent period'. At the first recording 94% of all his utterances are somatic; the minute rest are either vocal or vocal-somatic. He did not say a word. Nevertheless, he was very communicative and attentive towards his mother, with frequent instances of eye-to-eye contact. Being unable to communicate verbally at his cognitive level, Juan used a rich and varied nonverbal language.

Figure 4.1 Juan, channels of communication, % of own utterances.



Early transcriptions give the impression that Juan was totally passive, if nonverbal behaviour is excluded. Compare (1) and (2) below which represent the same episode:

(1)

Mother: SAja (there we are)
ska flaskan VA där?
(should be put the bottle there?)
mmm ... va de GOTT?
(does it taste good?)
namnamnamnamnam
(yumyumyumyumyum)
ska ja HJALpa dej?
(do you want me to help you?)
mm?
åååä ... SÅ!
(there we are)

	namnamnamnamnam (LAUGHS)	
(2) Child:		*Playing with toy bottles* *Takes lids off and puts them on again*
Mother: C:	SÅja	*Takes diaper pack, opens it, and puts a bottle in it*
M C:	ska flaskan VA där?	*Shakes the pack.* *Takes bottle no 2 and tastes it*
M C:	mmm ... va de GOTT?	*Smiles*
M C:	namnamnamnamnam	*Turns bottle a couple of times; tastes; points at the cork which is stuck*
M: C:	ska j a HJÄLpa dej ?	*Hands over bottle*
M C:	mm? åååå ... SÅ!	*Opens bottle. Hands it back to boy* *Plays with the bottle; shows how to drink from it*
M	namnamnamnamnam	

(A2)

After about ten days he started to talk, whispering; or rather he mimed, because he would not let any air out of his mouth. Then he started to whisper properly. During the second recording, the first words appeared in whispered, imitated form. At this time he was very fond of [rjk]-combinations, and some of his first words were *anka* (=duck), *vinka* (=wave one's hand), *blinka* (wink), etc. In the following short passage he is playing with the doll as the mother shows him that the doll can wink her eyes. This elicits a very happy face and the urge to say the word. Finally he dares to use his voice.

(3) Child: Mother:		*Points at doll's eye* *Holds doll in 'sleeping position'*
	ja de e dockans Öga (yes that's the doll's eye) mm dockan BLUNdar (mm the doll's eyes are closed) titta dockan kan BLINka (look the doll can blink her eyes)	
		Moves doll several times so as to show the blinking
C: M:	irjka (blink) BLINka ja (blink yes) Titta (look) BLINka (blink)	*Whispers, happy face*
C: M:	irjka BLINka ja (blink yes)	*Whispers*
C: M:	inka ja	*Whispers*
C: M	lirjka lirjka ... nä BLINka	*Whispers*
	('lirjka'... no 'blinka')	
C: M:	irjka kan DU blinka? (can you blink your eyes?)	*Whispers*
C: M	irjka får ja SE om du kan blinka (let me see if you can blink your eyes)	*Whispers*
C: M	irjka mm	*Voiced*

(A2)

In this second recording, after two weeks' time in Sweden, his verbal contribution was already 12% and his verbal-somatic 6%. These relatively high figures are explained by the fact that he used a small amount of words on several occasions. In this recording 22 utterances are represented by 5 different words, all of them in Swedish:

Word used	English transl.	Frequency, times used
nam nam	yum yum	10
irjka [blinka]	blink one's eyes	8
vov	bow-wow	1
mjaou	miao	1
dta [dar]	there	1

In the third recording, after one month in Sweden, 9 verbal utterances were produced using 5 words:

Word used	English transl.	Frequency, times used
ku: [Sw. sko]	shoe	4
nifia7nifio [Sp.]	child	2
ce:a [Sw. öra]	ear	1
tack [Sw.]	thank you	1
pa: [Sw. mus]	mouse	1

Dating from the fourth recording, after three months in Sweden, the verbal production settled at around 20% of the total number of utterances, whereas the verbal-somatic production continued to increase to almost 50% at the end of the two years. For an analysis of Juan's verbal language at age 3:10, see Chapter 5.

Juan's share of somatic utterances decreased over time, although the development was not stable. His vocal behaviour also shows ups and downs. In the first recording Juan was virtually silent. Then his vocal behaviour increased during the following four sessions (up to six months after adoption). This was a period of experimentation. After this period he had learned enough verbal language to communicate sufficiently and used vocal utterances mainly in play (vocal-somatic).

Concerning the mother's figures (see figure 2a in Appendix), we can only note that her behaviour is very stable over the two-year period. Somatic utterances are almost non-existent, and as one could have expected the verbal channel by far

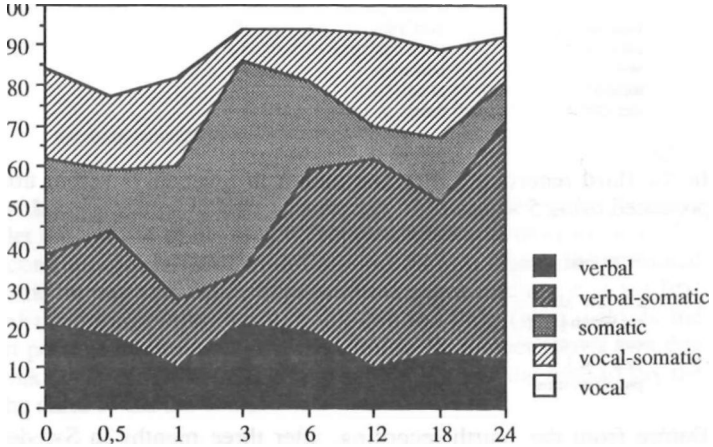
dominates her contributions. 10-15% of her utterances are vocal and are mainly used to give back-up signals to the child.

Paolo

A behaviour quite opposite to being silent is to talk a lot. In the Berntsen & Eigeland (1986) study 21% of the children talked very much immediately upon arrival in Norway.

For Paolo we get the following picture (cf. table lb in the Appendix):

Figure 4.2 Paolo, channels of communication, % of own utterances.



Paolo was the total opposite to Juan in that he was very verbal and vocal already from the start. As we can see, 41% of his utterances were verbal or verbal-somatic and 33 % vocal or vocal-somatic in his first recording. Furthermore, 92% of his verbal or verbal-somatic utterances were in Spanish, of which however only a few were understood by his mother.

(3)

Child:	da doi (I give you)	
	doi paiti (doy para ti = I give to you)	
	pa:ti doi (para ti doy =to you I give)	*Hands over doll's shoe to mother*
Mother:	ska vi hjälpa henne me SKORna?	*Takes it*
	(shall we help her with the shoes?)	
C:	pa:to (zapato = shoe)	
M:	kan du sätta PÅ henne skorna?	
	(can you put on her shoes?)	

C:	pa:ta (shoe)	*Hands over other shoe*
M:	mm?	
C:	(…)	*Hands over other shoe*
	pa:D (shoe)	
	b dejo (I give it)	
	parti (para ti = to you)	
M:	titta (look)	
	ska du sätta på DEN skon?	*Looks at the shoe he is holding*
	(shall you put on this shoe?)	
	pa:ti di (para ti di = I gave to you)	*Hands over shoe*
	dejo (I give)	
	(SCREAMS IMPATIENTLY)	
M:	hm?	
	ja? (yes?)	
C:	(SCREAMS IMPATIENTLY)	*Hands over shoe*
M:	ja ja ska ta den skon också	
	(yes I'll take that shoe too)	
	man får ta EN sko i taget vet du	
	(one has to take one shoe at a=	
	=time you know)	
	först tar vi DEN foten	
	(first we take that foot)	*Puts on shoe*

(CI)

As to the high percentage of verbal utterances in the first couple of recordings, we have a pattern somewhat different from that of Juan: Paolo uses many Spanish verbal utterances. In the first recording, immediately after arrival in Sweden, he uses 42 words a total of 107 times. Only five of the words are Swedish.

Wordused	English transl.	Frequency	Wordused	English transl.	Frequency
pipi: [Sp.]	pee	18	a [Sp.]	to	1
si [Sp]	yes	9	nùla [Sp.]	child	1
zapalo, pato [Sp.]	shoe	8	dentro [Sp.]	inside	1
alla [Sp.]	there	7	guagua [Sp. quecbua]	doll	1
mila/misa [Sp.camisa]	shirt	7	lambien [Sp.]	also	1
ti, te [Sp.]	you (obj.)	5	rqjo [Sp.]	red	1
te, or tete [Sp tetera]	drinking bottle	5	oso [S p.	bear	1
para [Sp.]	for, to	4	que [Sp.]	who	1
chopo [Sp.]	pacifier	4	toma [Sp.]	drinks (3 p.)	1
deja [Sp.]	you put (imp.)	2	vacio [Sp.]	empty	1
tu [Sp.]	you (subj.)	2	mira [Sp.]	look (imp.)	1
café [Sp.]	coffee	2	caballito [Sp.]	little horse	1
todilla [Sp.]	knee	2	bota [Sp.]	throw away (imp.)	1
este [Sp.]	this is	2	doy [Sp.]	I give	1
lo [Sp.]	it	2	trompa [Sp.]	trunk	1
pafiales [Sp.]	diapers	1	bien [Sp.]	good	1
dejo [Sp.]	I put	1	ja [Sw.j	yes	2
acuesta [Sp.]	put (imp.)	1	hopp [Sw.]	oops	1
encuenlro [Sp.]	I find	1	titta [Sw.]	look	1
di [Sp.]	I gave	1	dika [Sw. dricka]	drink	1
conteste [Sp.]	answer	1	doja [Sw. troja]	sweater	1

In the third recording, after one month in Sweden, 35 different words are used 59 times. Nineteen of the words are now Swedish.

Word used	English transi.	Frequency	Wordused	English transl.	Frequency
odidau: [Sp. con cuidado)	carefully	4	nalle [Sw. nalle]	teddy	7
si [Sp.]	yes	3	de [Sw. det]	it	4
no [Sp.]	no	3	anka [Sw.]	duck	3
toma [Sp.]	take	2	aj [Sw.]	ouch	3
aca [Sp.]	here	1	den [Sw.]	it	3
la [Sp.]	it	1	koka [Sw.]	cook	2
tapa [Sp.]	lid	1	kan [Sw.]	can	1
da [Sp.]	give (imp.)	1	hä [Sw. här]	here	1
me [Sp.]	me	1	på [sw.]	on	1
esta [Sp.]	it is	1	galoppa [Sw.]	to galop	1
ahi [Sp. acqui]	here	1	ja [Sw. jag]	I	1
balo [Sp. zapalo]	shoe	1	bada [Sw.]	bathe	1
bajanu [Sp. bajamos]	let's go down	1	dä [Sw. där]	there	1
vaso [Sp.j	vase	1	titta [Sw.]	look	1
kavé [Sp. café]	coffee	1	katt [Sw.]	cat	1
no [Sp.]	not	1	flicka [Sw.]	girl	1
			tyka [Sw. cykla]	to bicycle	1
			oj [Sw.]	ouch	1
			ja [Sw.]	yes	1

Paolo's verbal development is similar to Juan's - verbal and verbal-somatic utterances represent around 75% of the total number of utterances after two years of stay. A difference is that Paolo tends to use more verbal-somatic utterances and less purely verbal. For further comments on Paolo's use of Spanish and an analysis of Paolo's verbal language at the age of 3:10 see Chapter 5.

Somatically he is increasing his share during the recordings after 1 and 3 months in Sweden. As for Juan, this is probably a consequence of the verbal language being insufficient. Paolo's high verbal precentages in the recordings at 0 and 0,5 months have now vanished - he realises that he can no longer use his Spanish, and he does not know enough Swedish. Therefore he has to use the somatic channel of communication.

Paolo's mother, like Juan's, is very stable in her behaviour. Hardly any somatic or vocal-somatic utterances but rather mainly verbal or verbal-somatic ones are used. Her vocal utterances are approximately around 15-20% during all recordings (cf. also figure 2b in the Appendix).

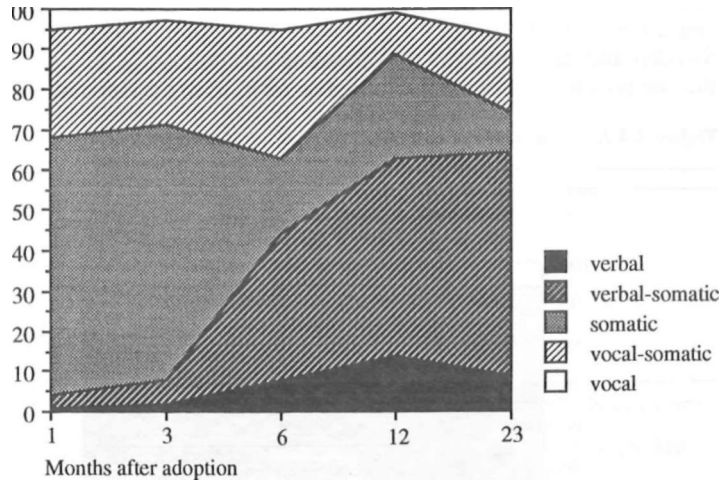
Sergio

Sergio's interactive type could be characterised as a 'mix' of Juan and Paolo's types. His first two recordings are made out of a large amount of somatic utterances (65%), extremely few verbal or verbal-somatic utterances (4-8%), and quite a large proportion of vocal-somatic utterances (25%). The total picture of his performance is the one given in figure 4.3 (cf. table lc in the Appendix).

We must bear in mind that the first recording with Sergio was made one month after adoption because his parents had to stay in Columbia for one month due to revised rules (cf. chapter 3). It may therefore be that the large proportion of somatic utterances is a parallel to what we have seen in Juan's and Paolo's development - namely that the children realise after one month that the few

words they know are not sufficient for communication and they start using somatic signals for a period until they they learn more verbal language.

Figure 4.3 Sergio, channels of communication, % of own utterances.



Sergio's very few verbal utterances in the first recording, after one month with his parents but immediately upon arrival in Sweden, are limited to the following four words:

Wordused	English transl.	Frequency
tete [Sp. tetera]	drinking bottle	6
na [Sw.]	no	1
aj [Sw.]	ouch	1
da [Sw. dar]	there	1

In the second recording, after three months with his parents and two in Sweden, he is using the same four words with different frequencies:

Wordused	English transl.	Frequency
nae [Sw.]	no	7
da [Sw. dar]	there	4
tete, te [Sp. telera]	drinking bottle	3
aj [Sw.]	ouch	1

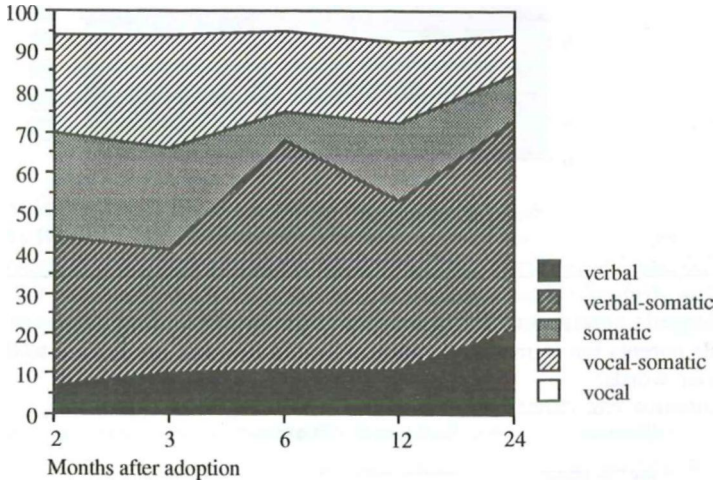
After 6 months in Sweden his verbal language develops more rapidly, and he decreases his use of somatic utterances.

His mother is more verbal and verbal-somatic than the other mothers (cf. figure 2c in the Appendix).

Julio

Julio was adopted at the age of 4:3, but unfortunately he could not be recorded until he had been together with his new parents for two months because the legal rules in Columbia had been changed. This meant that three important recordings could not be made. Instead I made a recording immediately after his arrival in Sweden and then followed the recording schedule (cf. 3.1.2). Julio's pattern is the one presented in figure 4.4 (based on table Id in the Appendix).

Figure 4.4 Julio, channels of communicalion, % of own utterances.



After two months with his new parents, Julio used mainly one-word utterances. He was not chattering or babbling. According to his parents he was never silent during their first two months together. He talked to them from the beginnning using Spanish and Swedish one-word utterances.

The most obvious difference between Julio and the two boys who were adopted at 1:10 may be found in his verbal behaviour. In the first recording 44% of his utterances are verbal or verbal-somatic. His 128 utterances are made out a lexicon of 38 words and consist of mainly one word at a time. Seven of the words are Spanish:

Word used	English transl.	Frequency	Wordused	English transl
si, ti [Sp.]	yes	12	tetin [Kerstin]	name
no [Sp.]	no	9	aj [Sw.]	ouch
popo [Sp.]	'number two'	3	tui [Sw. stol]	chair
uti [Sp. pipi]	wee	3	pappa [Sw.]	(hlily
y [Sp.]	and	1	ben [Sw.]	bone
bebe [Sp.]	baby	1	va [Sw.]	what
vavau [Sp.]	doggie	1	diua [Sw. skorna]	the shoes
me: [Sw. mer]	more	17	den [Sw.]	it
oj [Sw.]	ouch	12	men [Sw.]	but
där [Sw.]	there	11	end [Sw. hund]	dog
de [Sw.]	that/this	7	tetui [Sw. kastrull]	pan
nä [Sw.]	no	5	ma: [Sw.]	moo
mamma [Sw.]	mummy	4	in [Sw.]	in
ja [Sw.]	yes	4	tå [Sw. så]	so
vann [Sw. varm	warm	4	en [Sw.]	a/an
tu: [Sw. ko]	cow	3	på [Sw.]	on
äta [Sw.]	eat	3	momo [Sw. mormor]	granny
mjoru [Sw. mjölk]	milk	3	mamon [Sw. farmor]	granny
oba [Sw. apa]	monkey	2		

The only two-word utterances used are:

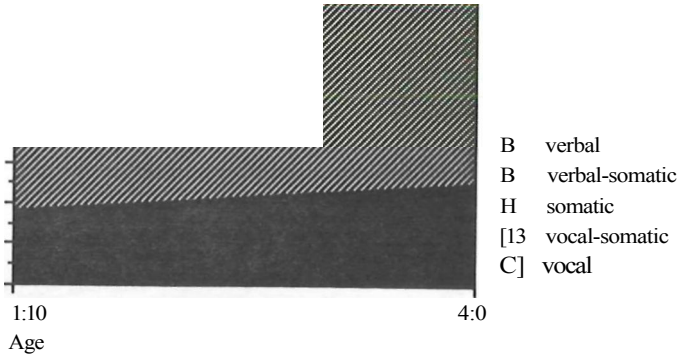
Utterance	English translation	Situation
oj pappa	ouch daddy	Showing toy vacuum cleaner. His father had recently bought a new vacuum cleaner
ja me:	I more (I want more toys)	Wants more toys from the bag
naja	no me (This is not me)	Showing boy doll
ti momo	yes granny (Yes this is granny)	Looking at granny doll
me: no	more no (There is nothing more in the bag)	Looking into bag

He had already been together with his new parents for two months and had realised that Spanish was not enough. He did not, however, use as large proportions of somatic utterances as the younger boys did, and we do not find the somatic peak of Juan, Paolo, and Sergio in Julio's development. It may be the case that this phase has already beenpassed at the time of the first recording, since this was made two months after Julio was taken into care by his parents (cf. Sergio, who appears to be in the peak phase at the time of the first recording). According to his parents Julio used a lot of somatic utterances during the first months.

Julio hardly uses any purely vocal utterances. Instead, his vocal contributions are vocal-somatic; i.e. used while manipulating something, asking for its name, its function, etc.

Julio's mother seems to be a little more somatically active than the other mothers, especially in her combinations of verbal-somatic utterances. Otherwise she behaves very similarly to the other mothers (cf. figure 2d in the Appendix).

Guillermo
Figure 4.5 Guillermo, channels of communication, % of own utterances.



Guillermo was adopted already at 8 months of age and thus never used Spanish actively, even though he must have been communicating with his Spanish-speaking foster family. I have only recorded him twice and only for reference. The proportions of different channels of communication used by him are given in figure 4.5 (cf. table le in the Appendix).

Already at 1:10 and after 14 months in Sweden, age-matched with the adopted children Juan and Paolo on arrival, Guillermo was extremely verbal. Seventy percent of all his utterances were verbal or verbal-somatic. Furthermore, his verbal utterances were both long, measured in number of words (MLU 1.8), and complex. In the first recording he uses the following 61 words 214 times. No words are in Spanish.

Wordused	English transl.	Frequency	Wordused	English transl.	Frequency
dir	there	32	navel	navel	2
mamma	mummy	19	mun	mouth	2
den	it	15	näsan	the nose	2
hedda, satta [sätta]	put	13	nosen	the mule	2
öppna	open	10	oe:a [öra]	ear	2
bleia [blöja]	diaper	7	mussa [mössa]	cap	1
dockan	the doll	7	hfelu: [hörlur]	ear phones	1
visa	show	6	kissa	wee	1
nä, nej	no	6	denne	this one	1
titta, sitta [sitta]	sit	fi	jättefönt	very nice	1
ja	yes	5	klia	scratch	1
epla [hjälpa]	help	4	sej	oneself	1
handen	the hand	4	me	with	
knapphålet	the button hole	4	ga	walk	
fönt [skönt]	nice	4	haklappen	the bib	
Pä	on	3	upp	up	
nog	probably	3	låna	borrow	
vällingen	the gruel	3	knappen	die button	
ha	have	3	huvud	head	
kan	can	3	vem	who	
katten Gusta	Garfield cat	3	de	it	
bilen	the car	3	kommer	comes	
pottan	the pot	2	famme [famnen]	(in) sb's arms	
e:	is	2	burken	the Un	
ta	lake	2	hämta	fetch	
knä	lap	2	fast	stuck	
liten	small	2	vatten	water	
cceda, sce:a [köra]	drive	2	hälla	pour	
här	here	2	vagn	carriage	
vällingflaskan	the bottle	2	botta [Sw. borta]	allgone	

The following are only a couple of examples of Guillermo's multi-word utterances:

Utterance	English translation	Situation
mamma epla kissa	mummy help pee	M. should help doll
visa mamma bleia handen	show mummy diaper hand	M. should show how the doll can hold her own diaper
öppna den knapphål	open that button hole	M. should unbotton dolls
vem e de kommer?	who is that coming?	G. hears noise from outside
söa dä botta mamma	drive over there mummy	M. should drive G. in car

At four years of age 81% of his utterances were verbal (25%) or verbal-somatic (56%). He was not particularly vocal and especially not very somatic. His behaviour did not seem to change over the two-year period, but of course we do not know what happened during this period. For further comments on Guillermo's language status at age 4, see Chapter 5.

Guillermo's mother does not differ from the previous mothers. Her behaviour is presented in figure 2e in the Appendix.

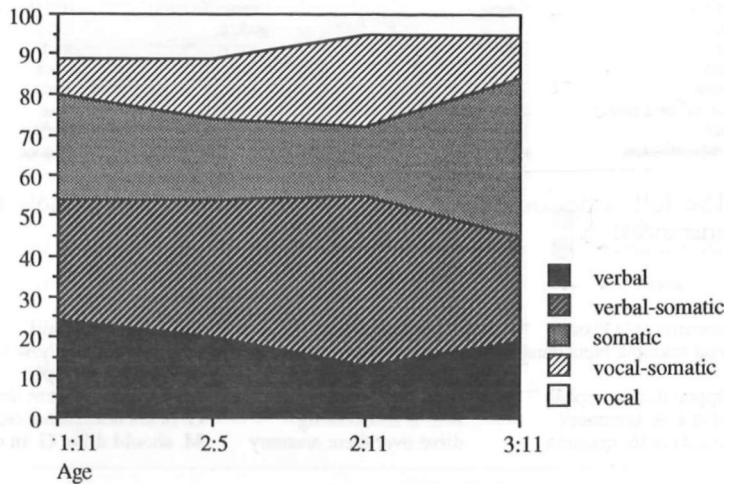
Rupert
The only Swedish-born child in this study, recorded with six-month intervals to be used as a control child, produced some differences that one might have expected to find. Figure 4.6 is based on table If in the Appendix.

As might have been expected of a Swedish-born two-year-old child, Rupert produced many verbal and verbal-somatic utterances: 50-55%. As for Guillermo there are of course quality differences, too. Rupert's utterances were, just like Guillermo's, longer and more complicated than the other adopted children's.

Rupert showed a low vocal behaviour but used quite a lot of vocal-somatic signals, especially in the recording at 2:11 in which he was playing with a toy

motorcycle. (This only confirms that if you want verbal language from a recording, you should not bring vehicles, and especially not to boys...)

Figure 4.6 Rupert, channels of communication, % of own utterances.



What we might not have expected, however, is that Rupert used quite a few somatic utterances - 20-25% of his total number of utterances. Maybe the use of somatic utterances is not only a sign of a child not being able to speak a language and not knowing his new mother well enough. Maybe it is also a sign that the members of the dyad *do* know each other well. Why bother to talk when mummy understands anyhow? In the last recording, at 3:11, the use of somatic utterances increased. This is because Rupert was not interested in participating. In fact, this was the only recording in the whole study in which a child was unwilling to cooperate. From the start he declared: T don't play with dolls', and his mother had a hard time trying to get him to cooperate.

Rupert's mother produces approximately the same proportions of utterances as the other mothers (see figure 2f in the Appendix).

Rupert's lexicon of 51 words at the first recording is the following, which he uses 157 times. No words are in Spanish, of course.

Word used	English iransl.	Frequency	Word used	English transl.	Frequency
d*	there	20	epa [hjalpa]	help	1
naj, na	no	16	pika [dricka]	drink	1
mapp, napp [napp]	pacifier	12	cfe	it	1
rjirji [välling]	gruel	10	hädi [färdig]	ready	
gol;a [docka]	doll	8	orwap [huvud]	head	
upp	up	8	ga: [kvar]	left	
nu	now		hudc [slut]	all gone	
soja [snurra]	spin round	4	kniva [skruva]	turn	
ny	new	4	ta	take	
hamp, svamp [svamp]	sponge	4	döja [tröja]	sweater	
den, denna	this	4	sak	thing	
bäbis	baby	3	ut	out	
°j	ouch	3	noit [mat]	food	
fisk	fish	3	ute	outdoors	
gu:na [skorna]	the shoes	3	mamma	mummy	
öpa [öppna]	open	3	fin	nice	
mu	moo	3	imma [simma]	swim	
lite	a little	3	vaim [varm]	warm	
äta	eat	2	gu: [ko]	cow	
ja	yes	2	ner	down	
mega [muggen]	the mug	2	fame	(in) sb's arms	
mössa	cap	2	toua [borta]	all gone	
av	off	2	gatte [vatten]	water	
gas [gräs]	grass	1	no:la [mäta]	paint	
horj [hår]	hair	1	så	so, that's it	
gott	good	1			

4.3 Strategies

As the first of a number of aspects of the communication between IA children and mothers I have chosen to study the different interactive strategies used, repeated in figure 4.7:

Figure 4.7 Interactive strategies (same as figure 2.2).

COMMUNICATIVE strategies

Goals:
1. understand
2. make yourself understood
Concentrate on:
The message and its function

LANGUAGE LEARNING/TEACHING strategies

Goals:
1. analysis (decode units)
2. acquisition (store in memory)
Concentrate on:
Utterance form and meaning

SOCIAL strategies

Goals:
Create affection, attachment and a positive 'climate' for communication
Concentrate on:
Your partner and yourself

I have analysed the dyads' use of strategies in two steps: First, based on the 80 first turns of all selected recordings, I have counted all utterances supported by a strategy or not. Secondly, I have made a breakdown of different sub-strategies

within the three major types (communicative, language learning/teaching, or social) for the cases where strategies actually are employed.

4.3.1 Use of strategies

Strategies or not?
The use of different strategies in the 80 first turns of the selected recordings is presented in Table 4.8. It appears that whether or not strategies are used and to what extent they are used varies greatly both between and within dyads. This variation is dependent both on personality and on whether the child is adopted or non-adopted, recently or some years ago.

If we start looking at whether or not strategies are used at all, we can see some similarities among the dyads with children adopted at age 1:10 (Juan, Paolo, and Sergio). In the first recording of these dyads the mothers use strategies in 64, 62, and 69% of all their utterances, whereas the mothers of the early adopted child (Guillermo), the late adopted child (Julio), and the Swedish child (Rupert) only use strategies in 51, 46 and 57% of their utterances.

The children's use of strategies immediately upon arrival is more varied and appears to be governed more by personality than by the fact that the children are adopted or not. In his first recording Juan, being silent, compensates for this by behaving socially - he is smiling a lot. Paolo talks and chatters and wants his mother to do things for him. In order to achieve this he uses communicative strategies. Both Juan and Paolo use strategies in 1/4 of all their utterances in their first recordings. Sergio hardly uses any strategies at all. He does not interact very much, but plays on his own. Julio is older (4:3 at the time of adoption) and uses more strategies, possibly thanks to his communicative experience being longer than the younger boys'. Guillermo resembles Paolo in that he also wants things to be done for him. He differs however in that he manipulates toys himself, often trying to perform the action himself. When he fails he hands the toy over to his mother, showing and telling her what to do. Rupert uses a moderate proportion of strategies (20%), mainly in order to explain what he wants to say.

The children's use of strategies over time is also quite varied (5-36% of all utterances). There are no differences linked to whether or not the child is adopted; their use or non-use of strategies must rather be governed by factors such as personality, what is actually needed in the specific situation, motivation, urge to be understood, etc.

The mothers' strategy use decreases over time when compared to the first recording. Variations up or down will be explained in the next section where a breakdown in different strategy groups is presented. It will appear that mothers emphasize different strategy groups at different times during the two-year period of the study.

Table 4.8 Strategy use, % of all utterances.

Child:	Months after adoption:	Age:		Strategy	No strategy
Juan	0	1:10	C	25	75
[1:10]			M	46	54
	3	2:1	C	32	68
			M	49	51
	6	2:4	C	10	90
			M	53	47
	12	2:10	C	13	87
			M	45	55
	24	3:10	C	28	72
			M	35	65
Paolo	0	1:10	C	27	73
[1:10]			M	62	38
	1	1:11	C	20	80
			M	46	54
	3	2:1	C	19	81
			M	44	56
	6	2:4	C	18	82
			M	39	61
	12	2:10	C	22	78
			M	33	67
	24	3:10	C	36	64
			M	42	58
Sergio	1	1:11	C	5	95
[1:10]			M	69	31
	3	2:1	C	12	88
			M	62	38
	6	2:4	C	30	70
			M	47	53
	12	2:10	C	26	74
			M	46	54
	23	3:9	C	23	77
			M	40	60
Julio	2	4:5	C	34	66
[4:3]			M	46	54
	6	4:9	C	20	80
			M	52	48
	12	5:3	C	20	80
			M	45	55
	24	6:3	C	31	69
			M	54	46
Guill.	14	1:10	C	44	56
[0:8]			M	49	51
	40	4:0	C	26	74
			M	38	62
Rupert		1:11	C	20	80
[Sw.]			M	43	57
		2:5	C	19	81
			M	29	71
		2:11	C	30	70
			M	32	68
		3:11	C	14	86
			M	33	67

What kind of main strategies?

The following results are presented in table 4.9 and are based on the number of utterances which actually do contain a strategy (total number of strategies used is also given in the table).

Initially the children use almost exclusively communicative strategies, with the exception of Juan who also makes use of social strategies. This is probably a consequence of his being a 'silent' child. Facial expressions become more important for him than for the other boys, who can either talk or produce vocal signals. Sergio, too, uses more social strategies than communicative, but on the other hand he is only using 5 strategies in the entire recording so these results are not really reliable. It is interesting that Guillermo and Rupert, with the longest exposure to Swedish and acquaintance with their mothers, both produce 100% communicative strategies and no social strategies.

Immediately after adoption the mothers use mainly communicative strategies. All mothers use approximately the same amount of communicative strategies (50-60%), except for Sergio's mother who uses more (72%), probably because her child does not communicate very much. Social strategies are used by all mothers, and here the Swedish mother takes the first position, closely followed by Paolo's, Juan's, and Guillermo's mothers. Sergio's mother is as mentioned already concentrating on communicating, and Julio's mother on communicating and language teaching. More or less consciously she must feel that Julio, because of his age, primarily needs to be taught the new language. It may also be a consequence of the fact that they have already known each other for two months at the time of the first recording. In the other dyads language teaching strategies are not so frequent. Guillermo's mother is using somewhat more language teaching strategies than Rupert's. This may be explained by the fact that Guillermo is now in the natural phase of overt language learning - he is at age 1:10 in the middle of the vocabulary spurt. If we look at Rupert's mother's behaviour only 6 months later she is reaching similar proportions.

None of the children use many language learning strategies. The main reason for that, I think, is that communication comes first. Another reason may be that overt and explicit language learning strategies are rare in this kind of context. Overt language learning strategies may be more frequent in other situations, e.g. bedtime monologues, rather than the interactive play situation present during the recordings.

Over time the children continue to concentrate on communicative strategies. Juan continues to use a good deal of social strategies all through the two-year period, but not many language learning strategies. Paolo uses few language learning and social strategies with some exceptions, probably due to the situation. Sergio hardly uses any language learning strategies at all. Julio, the older boy, makes use of more language learning strategies. The language shift is probably more disturbing to him than to the other boys, but on the other hand he knows how to handle the situation - by imitating and asking for the words. Julio does not use many social strategies either, but recall that he has at

Table 4.9 Strategies, % of all utterances containing a strategy.

Time after adoption	0	1	3	6	12	24	0	1	3	6	12	24
	Child						Mother					
Juan, [1:10]												
L	0	13	10	0	0	12	16	31	31	45	56	28
C	29	50	58	82	78	69	57	58	52	55	33	58
Prod	0	20	48	82	78	60	43	48	22	33	29	44
Perc	29	30	10	0	0	9	14	10	30	22	4	14
S	71	37	32	18	22	18	27	11	17	0	11	14
N	*14*	*30*	*38*	*11*	*14*	*33*	*43*	*114*	*80*	*61*	*72*	*49*
	4	17	4	0	37	13	17	21	16	*22*	42	24
	96	52	83	100	63	81	53	61	49	66	58	49
	96	35	79	96	63	81	27	51	31	34	36	34
	0	17	4	4	0	0	26	10	18	32	22	15
	0	31	13	0	0	6	30	18	35	11	0	27
	24	*29*	*24*	*27*	*46*	*47*	*142*	*101*	*89*	*64*	*50*	*62*
L		0	0	0	0	3	-	12	24	15	21	15
C		40	80	87	90	72	-	72	64	70	73	64
Prod	-	20	67	78	90	72	-	58	48	52	58	50
Perc	-	20	13	9	0	0	-	14	16	18	15	14
S		60	20	13	10	25	-	16	12	15	6	21
N		5	*15*	*45*	*30*	*32*	-	*126*	*129*	*69*	*88*	*65*
Julio, [4:3]												
L		-	17	29	22	14	-	-	39	33	30	52
C			83	65	72	77	-	-	60	42	64	44
Prod	-		71	59	47	57		-	51	32	52	36
Perc			12	6	25	20	-	-	9	!()	12	8
S			0	6	6	9	-	-	1	25	6	4
N		-	*45*	*53*	*32*	*56*	-	-	*90*	*93*	*101*	*74*
Guillermo, [0:8]												
L	0	-	-	-		11	28					18
C	100	-				86	50					56
Prod	0	-	-	-		75	27					32
Perc						11	23					24
S	0	-	-	-		3	22					26
N	*40*	-				*38*	*90*					*62*
Rupert, [Sw.]												
L	0		-	3	5	0	14	-	-	21	2	20
C	100	-	-	80	90	94	54	-	-	63	76	65
Prod	0		-	80	80	88	50	-	-	50	51	54
Perc	0		-	0	7	6	24	-	-	17	25	11
S	0		-	17	5	6	32	-	-	16	22	15
N	*32*		-	*35*	*37*	*17*	*73*	-	-	*41*	*41*	*71*

the time of the first recording already spent two months together with his new parents. Guillermo and Rupert do not use many language learning strategies or social strategies. For all children it is the production strategies which dominate the communicative strategies, with the exception of the initial one or two

recordings of Juan and Sergio, who are there both either silent or very nonverbal.

Concerning the mothers' behaviour over dme one thing is striking - the adopdve mothers use more language teaching strategies than the Swedish mother or the mother of Guillermo, who was adopted at 0:8. In some cases the figures even exceed 50% of the strategy use. The mothers' use of social strategies vary, too, but it is not the fact that a child is recently adopted that governs whether or not social strategies are used. It is rather the mothers of young children who use more social strategies. Julio's mother uses few social strategies and Juan's and Rupert's mothers decrease their use when compared to the first recording, although the development is not straightforward in any of the dyads. The mothers' use of communicative strategies varies, too, but with few exceptions each mother follows a relatively stable trend, somewhere around 50-60%. The production strategies dominate in almost all recordings for all mothers. This dominance can however be more or less strong. The exception is Juan's mother in the third recording; after that Juan has started to use verbal language. His mother is now facing something new and starts using perception strategies in order to check her own understanding. Similarly, the production dominance of Paolo's first and fourth recording is very weak. In the first recording his mother is questioning his use of child Spanish, which she may experience as chattering. In the following two recordings she concentrates on her own production, and in the fourth recording, when the boy's verbal language has started to develop, she is again concerned with perception. We do not find this behaviour in Sergio's mother, who initially has trouble making her child communicate and who needs to use production strategies in order to maintain his attention. Julio's mother never uses many perception strategies either. This dyad is as a whole very preoccupied with language learning and teaching. Furthermore, Julio is in spite of his low M L U and overall poor verbal performance not at all difficult to understand, so overt perception strategies are maybe not necessary. The relatively high proportions of perception strategies found in Guillermo's mother are not due to poor understanding but rather to his mother's habit of repeating his utterances either in the form of a clarification request or as a statement/confirmation.

What kind of substrategy?
The rather space-consuming tables 3a-f presenting a breakdown of the choice of substrategy are found in the Appendix. A consultation of the tables will give us the following information.

Language learning/teaching strategies. It is the adoptive mothers who use the major part of language teaching strategies, especially the Naming strategy through all recordings, and in particular the mothers of Juan, Paolo, Sergio and Julio - the boys who have recently been adopted. In tables 4.10a and 4.10b it is shown that the Naming and the Checking strategy are the dominant language teaching strategies. Furthermore, in the first two recordings (immediately after and six months after the adoption) the Naming strategy is the dominant, and after 12 and 24 months the Checking strategy dominates the use of language

teaching strategies. You have to know (= be taught) a word before you can be asked about it. The mothers of Rupert and Guillermo start using Checking strategies earlier than the other mothers, and they use very few Naming strategies. This is probably a stage they have already been through.

Table 4.10a Language teaching strategies.
Percentage of total number of strategies, mothers.

	Months after adoption	Age	Naming	Correct.	Checking	Instruct.
Juan	0	1:10	14	-	2	.
[1101	1	1:11	11	2	16	2
	3	2:1	13	3	7	7
	6	2:4	26	5	11	3
	12	2:10	11	3	36	6
	24	3:10	14	-	10	4
Paolo	0	1:10	18	-	4	-
[1:10]	1	1:11	14	1	4	2
	3	2:1	10	-	6	-
	6	2:4	11	-	11	-
	12	2:10	8	-	34	-
	24	3:10	6	-	16	2
Sergio	1	1:11	5	-	7	-
[1:10]	3	2:1	14	2	5	3
	6	2:4	12	-	-	3
	12	2:10	2	1	13	5
	23	3:9	1	-	14	-
Julio	2	4:5	11	1	24	3
1431	6	4:9	10	-	18	5
	12	5:3	4		26	-
	24	6:3	5	4	32	8
Guill.	14	1:10	2	1	21	4
[0:8]	40	4:0	-	-	16	2
Rupert		1:11		10	1	-
[Sw.]		2:5	2	-	17	2
		2:11	-	-	-	2
		3:11	1	-	8	11

The children do not start using language learning strategies until after a year s stay or more (table 4.10b), with one exception: Julio, who is older than the other boys (4:3 at the time of adoption). Whenever a language learning strategy is used, it is a Checking strategy, again with few exceptions: Julio, who is an imitating child, and Juan and Paolo, who are imitating in their second and third recordings.

Table 4.10b Language learning strategies.
Percentages of total number of strategies, children.

	Months after adoption	Age	Imitating	Checking
Juan	0	1:10		
[1:10]	1	1:11	10	
	3	2:1	10	_
	6	2:4	-	_
	12	2:10	-	_
	24	3:10	-	12
Paolo	0	1:10		4
[1:10]	1	1:11	17	
	3	2:1	4	_
	6	2:4	-	_
	12	2:10	-	17
	24	3:10	-	13
Sergio	1	1:11	_	
[1:10]	3	2:1	-	-
	6	2:4	-	_
	12	2:10		_
	24	3:9	-	3
Julio	2	4:5	1	16
[4:3]	6	4:9	5	22
	12	5:3	23	4
	24	6:3	12	2
Guilliermo	14	1:10		
[0:8]	40	4:0	-	11
Rupert		1:11	-	
[Sw.]		2:5	-	_
		2:11	-	5
		3:11	-	-

Communicative strategies. Among the communicative strategies, the ones supporting production are as already mentioned far more common than the ones used to facilitate perception, especially when the children are concerned. The main production-oriented strategy used by the mothers is the Addition of nonverbal behaviour (pointing, touching, showin etc.), followed by repetition and paraphrase. It is interesting that Juan's, Paolo's, and Sergio's mothers use more repetitions than paraphrases, as if they do not wish to confuse their recently adopted children with a lot of different words or phrases, but rather stick to a repetition of the same words, with or without the combination of nonverbal behaviour. The opposite behaviour is found in Rupert's and Guillermo's mothers. These children have a more solid language ground with a basic vocabulary, and this allows for a more extensive use of paraphrases. Julio's mother uses more paraphrase than repetition, too - possibly induced by the child's obvious cognitive matureness.

As mentioned above, all the children except Juan in his first and second recording and Sergio in his first recording use more production strategies than perception strategies, and their main choice is Addition of nonverbal behaviour. Of course, if you are silent or nonverbal you cannot add this to your behaviour. In the subsequent recordings, where Juan and Sergio are talking, they are also using the Addition of nonverbal behaviour strategy.

Among the strategies used to support the perception of their partner's utterances mothers use mainly the Interpretation strategy, followed by the Clarification request strategy. The children do not use as many perception strategies as the mothers, but when they do the adoptive children use mainly interpretation and imitation, and with increasing age also clarification requests. The Swedish boy Rupert and the early adopted boy Guillermo use almost exclusively clarification requests.

Social strategies. Among the social strategies we find the largest variations, maybe because the use of social strategies is more dependent on the situation. Sometimes you need, or rather you feel your partner needs, more or less of this kind of behaviour. Juan in particular, and to some extent also Sergio, uses considerably more social strategies than the rest of the boys. They are also the only boys who show any social strategies in the first recording, immediately after adoption. Obviously Juan's use of social strategies in the first recording is aimed at compensating for his lack of verbal language, and in some way this behaviour can have become 'fossilized'. This did not happen to Sergio, but on the other hand he was not totally silent but used his voice much, too.

A11 mothers uses social strategies, especially towards their two-year-olds, whether or not recently adopted. The most common social strategy is smiling. The use of touch or approach (leaning forward closely to the partner) is not found in all dyads, but there appears to be no pattern governing the use of the strategy. Julio's mother uses less social strategies, with the exception of the second recording.

4.4 Responsiveness

Applying the modified version of the IR-analysis to my data at one-year intervals and starting from the very first recording revealed some interesting differences between the adoptive children and their mothers, between the mothers themselves, and between adoptive and non-adoptive children. Analysis was made immediately after adoption, after one year, and after two years. For the early adopted child and the Swedish child comparable dates were chosen.

In table 4.11 we find the results of the analysis of the first 15 minutes of the above-mentioned recordings.

We can see that young children, whether or not adopted, use a high degree of continuations of their own previous utterances without responding to the partner's previous turns **(=1+** or **=1-).**

Table 4.11 IR-analysis of turns in %.

	Age	Months after adoption	Turn	1+	1-	R/I+	R/I-	Rm	B	=1+	=1-	Total
Juan	1:10	0	C	2	17	2	22	6	·	6	44	(85)
[1:10]			M	1	-	36	38	5	14	3	3	(83)
	2:4	6	C	2	19	-	27	17	5	-	30	(167)
			M	2	6	27	25	-	20	5	15	(170)
	2:10	12	C	4	8	1	31	28	1	-	26	(154)
			M	3	2	40	28	8	7	5	6	(156)
	3:10	24	C	1	11	6	27	16	3	1	35	(154)
			M	4	2	29	31	4	20	5	4	(157)
Paolo	1:10	0	C	3	25	-	20	5	-	5	40	(132)
[1:10]			M	2	-	36	31	7	16	6	-	(141)
	2:4	6	C	2	31	-	9	8	-	5	45	(130)
			M	2	-	39	29	3	17	6	4	(133)
	2:10	12	C	2	1	6	31	12	4	11	33	(127)
			M	-	1	36	29	6	13	5	9	(130)
	3:10	24	C	8	12	9	15	11	8	4	33	(145)
			M	3	1	21	30	4	28	3	10	(145)
Serg.	1:11	1	C	5	23	3	2	7	-	6	69	(128)
[1:10]			M	7	1	33	25	8	14	7	5	(130)
	2:4	6	C	6	31	1	16	10	2	6	28	(125)
			M	9	5	30	23	3	6	14	10	(128)
	2:10	12	C	1	16	2	43	16	.	-	22	(108)
			M	10	4	44	16	-	10	14	2	(108)
	3:9	24 m	C	5	19	1	32	18	3	-	22	(129)
			M	9	5	35	19	1	12	12	7	(128)
Julio	4:5	2 m	C	2	4	5	36	10	-	29	13	(166)
[4:3]			M	2	3	27	42	7	5	4	11	(169)
	4:9	6 m	C	6	19	4	26	12	-	4	24	(136)
			M	5	4	25	23	6	17	13	7	(134)
	5:3	12 m	C	-	5	-	30	25	1	9	30	(112)
			M	1	5	27	25	12	5	14	11	(110)
	6:3	24 m	C	5	14	4	39	32	-	27	6	(167)
			M	7	-	35	16	14	6	16	6	(173)
Guiller.	hlO	14 m	C	4	14	3	26	16	1	12	23	(129)
[0:8]			M	1	-	49	22	5	18	4	1	(130)
	4:0	40m	C	7	9	8	29	16	-	8	23	(146)
			M	4	3	30	24	14	16	5	3	(145)
Rupert,	l:ll	-	C	-	11	-	26	19	1	2	39	(133)
[Sw.]			M	2	-	33	28	3	19	8	5	(135)
	2:11	-	C	4	8	11	30	12	2	3	30	(93)
			M	1	2	29	34	4	9	7	14	(92)
	3:11	-	C	5	20	5	32	24	-	7	7	(83)
			M	8	8	37	24	6	2	8	7	(84)

The mothers use very few of this kind of turn. All mothers use large shares of combined response-inidatives (R/I+ and R/I-), i.e. the kind of communicative behaviour that is most efficient in making the dialogue continue.

The children respond almost exclusively with combinations of response and a weak initiative (R/I-) and this behaviour increases over the two years. Also, immediately after adoption the children use very few minimal responses, but this skill has been acquired after the first year. If we compare the adopted boys (Juan, Paolo, Sergio, and Julio) to the early adopted boy (Guillermo) and the non-adopted boy (Rupert), we find that the latter two use a considerable amount of minimal responses already at the age of 1:10.

Maternal use of minimal responses and back-channel items is stable or even increasing over time - probably as a consequence of die children becoming more independent and not requiring so much support.

Overall, both mothers and children use few fresh strong initiatives (I+). It appears from the transcripts that mothers use strong initiatives mainly in order to distract the children when they get bored and want to leave the room, when they try to play with the tape recorder, etc.

4.4.1 Results - responsiveness

Based on the categories borrowed from the IR-analysis, I have studied the responsiveness in the different dyads. How do mother and child respond to each other? How does the responsive behaviour change in a developmental perspective? What kind of initiative does it take to elicit a response?

In table 4.12a the proportions of initiatives per partner that actually do receive a response are presented. The children adopted at 1:10 (Juan, Paolo, and Sergio) give fewer responses to their mothers than Guillermo and Julio as well as Rupert at the corresponding age/occasion. Already after one year this difference has almost disappeared. Both Paolo and Sergio score very low initially, and it takes longer for them to catch up than it does for Juan. All mothers are extremely responsive to their two-year-olds. Juan's mother, who could have been expected to score lower than the other mothers since she has a 'silent' child and may have more difficulty reading off his initiatives than those of a talking child, does not perform any differently than the other mothers. It is also obvious that responsiveness is very much an ability which increases with age - Julio has at the age of 6:3 almost reached the same response level as the mothers.

Table 4.12a Percentage of total initiatives responded to per partner.

		Months after adoption 0	6	12	18	24
	Initiative of					
Juan	C	92	76	91	86	92
[1:10]	M	34	61	66	53	65
Paolo	c	96*	94	95	84	91
[1:10]	M	26	21	57	62	56
Sergio	c	82**	71	77	–	79
[1:10]	M	14	29	64	-	59
Julio	c	87	75	82	–	91
[4:3]	M	61	60	68	-	83
Guilliermo	c	96***		–	–	95****
[0:8]	M	50	-	-	-	71
Rupert	c	87	79	81	–	90
[Sw.]	M	59	62	62	-	60

* 1 month after adoption
*** 14 months after adoption
* 2 months after adoption
**** 40 months after adoption

What kind of initiative does it take to elicit a response?

A response may be elicited by either a strong or a weak initiative. From table 4.12b we see that both mothers and children are quite apt to respond to strong initiatives; the mothers often reach 100% responsiveness. It should also be added that the children produce only few strong initiatives. This means that when a mother scores below 100% it could be the case that she has responded to 8 of 9 initiatives or similarly. I have therefore included the total absolute numbers of strong initiatives produced by either child or mother in table 4.12b.

The children produce a response pattern which is proportionally very similar to that of table 4.12a; i.e. Juan, Paolo, and Sergio receive the lowest scores in their first recording(s), then Juan advances, while it takes a little longer for Paolo and Sergio to catch up. After six months in Sweden Paolo's responsiveness toward strong initiatives has actually decreased (cf. table 4.12a). After two years, however, all boys are virtually equal. Again, Julio is after two years of stay in Sweden the most responsive of the boys.

In responding to weak initiatives both mothers and children generally score lower than in the case with strong initiatives, but the pattern is the same. Mothers' percentages lie around 80-90% with a few exceptions (see table 4.12c). The children eventually reach approximately 50% responsiveness. In the first recording we can note a difference: Guillermo and Rupert, who scored better than Juan and Paolo for strong initiatives, are not better when it comes to weak initiatives. This would imply that at two years of age all children are relatively dependent on strong signals, or obligatory turnpassers. Julio initially receives higher scores, due to his age. After two years this difference has however disappeared.

Table 4.12b Percentage of strong initiatives responded to per partner. Figures within () indicate total absolute number of strong initiatives produced by either child or mother.

		Months after adoption 0	6	12	18	24
	Initiative of					
Juan	C	100(8)	100(3)	100(7)	73 (9)	90(11)
[1:10]	M	45 (34)	71 (61)	70 (73)	88 (41)	77 (61)
Paolo	c	100(12)	95 (9)	100(21)	86 (16)	93 (30)
[1:10]	M	40 (68)	27 (61)	74 (54)	76(71)	78 (40)
Sergio	c	89 (18)*	100(15)	100(3)	-	71(7)
[1:10]	M	15(61)	34 (65)	69 (74)	-	67 (72)
Julio	c	100(31)**	94(17)	100(10)	-	100(16)
[4:3]	M	65 (61)	72 (60)	89 (45)	-	94 (99)
Guillermo	c	96 (30)***	–	–	-	88 (34)**
[0:8]	M	69(71)	-	-	-	80 (56)
Rupert	c	100 (4)	88(8)	81(17)	-	100(13)
[Sw.]	M	86 (57)	94 (53)	80 (34)	-	70 (44)

* 1 month after adoption
*** 14 months after adoption
* 2 months after adoption
**** 40 months after adoption

Table 4.12c Percentage of weak initiatives responded to per partner.

		Months after adoption 0	6	12	18	24
	Initiative of					
Juan	C	93	75	87	85	92
[1:10]	M	30	55	47	42	52
Paolo	c	92	89	88	83	89
[1:10]	M	16	14	39	46	44
Sergio	c	79*	66	76	-	80
[1:10]	M	10	25	61	-	46
Julio	c	84**	71	79	-	90
[4:3]	M	55	43	48	-	54
Guilliermo	c	97***	–		-	90****
[0:8]	M	32	-	-	-	57
Rupert	c	86	78	81	-	83
[Sw.]	M	27	35	41	-	46

* 1 month after adopuon
*** 14 months after adoption
* 2 months after adoption
**** 40 months after adoption

4.4.2 Results - sequential responsiveness

It is interesting to trace the development of which responses follow on which initiatives,, i.e. to make a sequential analysis. In communication with children, and especially in communication with children who do not understand the verbal language, I think it is important to explore this kind of development of the dialogue.

The results will be presented with reference to the first recording after adoption, then 6, 12, and 24 months after adoption (at age-matched occasions for Guillermo and Rupert). They are based on the long table 4 in the Appendix.

0 months after adoption (for Sergio 1 and for Julio 2 months after adoption): Immediately after adoption all IA boys respond to their mothers' initiatives mainly by responses including a weak initiative (R/I-) or by a minimal response (R). However, their main category - the most common turn of communication - is a weak initiative and non-responding continuation of their own previous turn (=1-). Paolo also produces a large number of fresh weak initiatives (I-), a result of a constant shift of conversational topic. A check with the transcriptions reveals that he is actually presenting a number of different toys to his mother, not being able to settle for one single toy to play with. Sergio produces almost only I-'s and =I-'s and is not very responsive. Julio, the older boy, makes fewer =I-'s (and =I+'s) than the other boys and his main category is R/I- as a result of communicative experience. Guillermo, who was adopted already at 8 months of age, makes fewer =I-'s or =I+'s than his age-matched fellow-adoptees. His main category, too, is the R/I-. Both Guillermo and the Swedish boy, Rupert, produce many minimal responses (R).

The kind of initiative required from the mothers to elicit a response is almost exclusively a strong one. It takes a question, an imperative, or any other strong nonverbal signal (cf. 4.4.1) from the mother to elicit a response at this age. This assumption is confirmed by the behaviour of both Guillermo and Rupert, who also have problems responding to weak initiatives. However, as already shown in tables 4.12a, they are on the whole more responsive than the IA children because they are well tuned in with their mothers and know the language. Again, Julio stands out because of his higher age and communicative experience. Already at Time 1 he is equally responsive towards strong and weak initiatives.

The mothers behave very similarly. They respond to almost all child initiatives. When they do not, it is after a weak initiative, and especially so if the weak initiative is a continuation of the child's previous turn. Furthermore, all mothers often confirm their children's minimal responses.

6 and 12 months after adoption: At this age the children's degree of responsiveness is increasing. The most common response of the IA boys, if they respond at all, is still a response in combination with a weak initiative (R/I-) or a minimal response (R). However, this does not necessarily have to be elicited by a strong initiative. All boys now start to respond to weak initiatives, too. The

degree of weak initiatives continuing a previous turn is still high; however it no longer dominates the children's performance.

In the Swedish boy we can now see a pattern that is quite close to adult responsiveness; i.e. mainly responses of various kinds and only a few fresh initiatives (1+ or I-) or continuations of own previous turns (=1+ or =1-).

The mothers' behaviour has remained constant.

24 months after adoption: At this time we can now see the 'adult pattern' also in the IA boys' behaviour. Both R/I+'s and R/I-'s are responded to by all kinds of responses, and the degree of continuations of own previous turns has decreased considerably.

The mothers' responsive behaviour is unchanged. Very few turns are not responded to.

4.5 Function and form of utterances

We may further ask: What is inside the initiatives and responses; i.e. what are their functions? In what syntactic form are they expressed?

Using the utterance function categories presented in 3.3.3.4 I have analysed all selected recordings, with the following results based on tables 5a-f in the Appendix. In the early recordings many utterances are provided in the somatic channel. Whereas requests, regulation and even the providing of identity, confirmations, refusals, imitations, evaluations, interjections, and social utterances are typically or most often uttered in the verbal channel, the providing of information in the early recordings frequently appears in the somatic channel. In tables 6a-f (also in the Appendix) the share of somatic or vocal-somatic providing of information is presented.

4.5.1 Results - utterance function

0 months after adoption (for Sergio 1 and for Julio 2 months after adoption): In table 5a we find Juan. He is the boy who had a 'silent period', but nevertheless he is an outgoing and communicative boy already from the very beginning. His share of providing is much larger (87%) than his requesting (which is almost non-existent: 4%). All his providing is made somatically. He manipulates toys, showing his mother what he is doing with the things (providing information); e.g. he 'drinks' from a doll's bottle. He sometimes wants his mother to tell and show him what to do with something or to actually do it herself (requesting information or action). He also uses facial expressions instead of another utterance.

Juan's mother provides identification, information, and minimal confirmations as a response to his somatic behaviour. She does not request much (34%), and when she does this is request for action (19%). Presumably this is because Juan does not speak - it would not make sense to ask when he cannot answer. Furthermore, Juan is an active boy and moves around with the toys with interest and enthusiasm. Therefore it makes sense to ask him to do things with the toys, now that he cannot talk about them. A further consequence of his silence is the number of regulative devices (8%), mainly attention getters, used by the mother. She is not certain that he is following her unless she checks his attention every now and then.

Paolo is an example of a child trying to use his original language. In this first recording he did not play much, but he clearly wanted his mother to do things for him. In table 5b we see that Paolo used many more requests (30%) than Juan did, and most of the requests were for action (14%). He provided only half the amount of information that Juan did, because he did not undertake much, and 96% of his providing of information is somatic. He often produced uncertain utterances (11%), which together with his use of child Spanish resulted in his mother having to request confirmation often. This increased his mother's total share of requests, but otherwise she did not differ from Juan's mother. Paolo and his mother also developed a frequent use of interjections - every time a new toy was presented this was rewarded with a long 'oooh!'.

Sergio is, like Juan, a very quiet boy (see table 5c). He is mainly providing (83%), of which 75% is information and 7% interjections. Almost all (99%) of his prodiving of information is somatic. He does not request much, but when he does it is for action (9%). His mother produces an equal proportion of providing and requesting (42%), some vocal nonverbal utterances (10%), and a little regulation (4%) when the boy does not want to sit down or when he wants to play with the camera.

The older boy, Julio (table 5d), behaves slightly different. His providing amounts to 80%, of which the major part (55%) is information. 78% of the providing of information is somatic. However, we find 12% interjections, and this is actually an important way for him to introduce new topics: to pick up something and exclaim 'oooh' or 'den!' (=that). His mother has also chosen her way to open a topic: to make a request for identification (16%). Totally, however, she is not requesting more than the rest of the mothers (35%). When providing (60%) she supplies information, confirmation, and identification.

Guillermo, who was adopted at 8 months of age, is also requestive (25%), of which 24% represents request for action (see table 5e). He wants his mother to carry out tasks for him, not because he does not dare himself, but rather because he choses to do difficult things, such as tying the doll's shoes, buttoning her shirt, etc. He is providing mainly information, and 48% of this is made somatically. His mother is the most requestive of all the mothers (52%), and she mainly asks for information (13%) or confirmation (24%), the latter in the form of intrepretation checks of verbal utterances. While providing (totally 46%), she is

not giving many identifications but mainly information (19%) and confirmation(24%).

The Swedish boy Rupert (table 5f), almost exlusively provides (92%), and mainly this is in the form of information (67%). He talks about the toys and what he is doing or going to do with them. He does not have to request identification because he knows the names of the things, and not action because he knows what to do. He does not request any information either, since he is a normal self-centered two-year-old (just like the IA boys). 50% of his providing of information is somatic. His mother provided more than both IA mothers (65%), presumably becuase she knew her son would understand and be able to answer. She used requests in about the same amount as Juan's mother (33%), and mainly requests for confirmation (20%) - usually as aninterpretation check of the boy's somatic utterances.

1, 3, and 6 months after adoption (3 and 6 for Sergio, 6 for Julio): After one, three, and six months in Sweden, Juan's proportions of providing and requesting utterances remained fairly constant. After 1 month his somatic proportions of the providing of information still amounts to 100%; after 3 and 6 months it has decreased to 83% and 82% respectively. The only noticeable change is that he starts to provide minimal confirmations, and of course that he now starts to speak. He also increases his providing of identification. His mother decreases her checking of his attention, and her proportions of providing have grown at the expense of nonverbal vocal utterances. She no longer asks for action, but starts to ask for identification of things (cf. also 12 months after adoption where this behaviour has increased further) and for confirmation. This can be explained by two facts: 1) The boy is now speaking and can answer requests of this kind, and 2) since he is speaking, and since at this early stage it may sometimes be difficult to understand him, this gives reason to ask for confirmation. The mother's providing identity decreases as the boy develops his ability to do this himself, and she now requests identification instead.

Paolo increases his proportion of providing to 66% and then to 84%, especially with regard to the providing of identification and information. Consequently, his requests decrease (to 9% and 5%), and he does not ask his mother so often for action since he can now do things on his own. After 6 months his requests increase again, possibly at the expense of his unclear utterances. The somatic providing of information amounts to 97%, 95%, and 64% respectively at 1,3, and 6 months after adoption. He ceases to produce unclear utterances, so his mother's share of requests for confirmation has decreased accordingly. A similarity to Juan's mother is that the proportion of providing identification has decreased dramatically (only 1 % after 6 months) - like Juan it is now Paolo who provides the identification of things.

Sergio's proportions change somewhat during his first half year in Sweden. After 3 months his share of providing has increased to 89% and after 6 months it has decreased to 74%. After 3 months he is mainly providing information, whereas after 6 months he has started to provide identification and minimal

confirmations. His providing of information is after 3 months 96% and after 6 months 69%. After 3 months he is still using mainly vocal or vocal-somatic utterances, but after 6 months he has started to use more verbal language, and he is producing a considerable amount (15%) of unclear utterances. Both these behaviours call for confirmation requests from the mother. His mother's use of utterances remains stable in regard to the providing; the requesting increases with reference to the first recording, then it decreases a little again to 41% after 6 months.

The older boy, Julio, has during his first four months slightly increased his providing from 80% to 89%. He provides more confirmations, and 53% of his providing of information is now somatic. He is still using many interjectives (11%). He requests less, and when he requests it is mainly for identification (7%). His mother's behaviour is stable, and she is still asking a lot for identification (14%).

We have no data on Guillermo at these times.

The Swedish boy has hardly changed his pattern at all. He produces 89% providing, mainly of information (69%), and only 2% requesting. 52% of his providing of information is made somatically. His mother does not have to ask for confirmation as often now as earlier. Instead, she is asking for information to a higher degree than earlier.

12 months after adoption: Juan has now started to increase his share of requesting to 11% at the expense of the providing. Out of his providing of information only 44% is now made somatically. He is still providing many identifications (21%). His mother's behaviour is stable, and she is increasing her requests for identification at the expense of the requests for confirmation as Juan's verbal language improves.

Paolo is increasing his share of requests again, especially request identification (16%). He is also providing identification to a high degree (20%), and he has increased his share of providing of confirmations. These increases are made at the expense of mainly the providing of information, of which 51% is made somatically. His mother's behaviour is fairly stable. She is still making comparatively many requests for confirmation.

Twelve months after adoption Sergio produces no requests at all, but 94% providings and 6% unclear utterances. It may seem strange, but we have also seen that the other children's shares of requesting can be very low, so it is probably only his way of interacting. Even the Swedish boy, Rupert, scores only 2% requests in his second recording, so the behaviour should not have anything to do with the fact that Sergio is adopted. This is rather something that occurs in the recordings when the boys are behaving independently, and it does not at all exclude interaction. 44% of Sergio's providings of information are made somatically at this stage. His mother is keeping up a fairly high proportion of requests (50%), especially for information and action.

Julio has remained fairly stable since the last recording. He has however decreased his providings a little in favour of nonverbal vocal utterances. His mother has in contrast increased her share of requests for identification and for information at the expense of her providings.

There is no recording of Guillermo at this time.

The Swedish boy Rupert has increased his share of requests to 14% at the expense of the providing, which is now down to 70%. In this recording Rupert engages in a new activity which is not as frequent in the other dyads, namely vocal illustration while driving a motorcycle. His mother increases her providing of information at the expense of the providing of confirmation and of her requests.

24 months after adoption: Juan has hardly changed his behaviour since the last recording - it is now 77% providing, 10% requesting. Now, after 2 years in Sweden, only 38% of his providings of information are somatic. His mother's behaviour has also remained stable - 62% providing, 34% requesting, but she is now requesting more information (15%) at the expense of identification (5%).

The proportions of Paolo are very similar to those of Juan - 78% providing, 12% requesting. Even within the categories there are only very small differences between Paolo and Juan. After 2 years in Sweden only 27% of Paolo's providing of information is somatic. Paolo's mother has increased her providings from 47% to 69% at the expense of her requests, which decrease from 50% to 30%. This means that she now behaves very similarly to Juan's mother.

Sergio still concentrates on providing - 86% of his utterances, of which providing of information amounts to 39%, of confirmation 19%, and of identification 14%. 29% of his providing is now made somatically. Only 3% of his utterances are requesting; 5% are nonverbal vocal, and 6% are unclear utterances. His mother's behaviour has not changed since the last recording and her shares of providing and requesting are approximately 50/50.

Julio has now increased his providing slightly at the expense of his requesting and is mainly providing information and identification at the request of his mother. His requestive behaviour has decreased to only 5%. Only 21% of his providing of information is somatic at this stage. His mother's proportions of providing and requesting have remained stable, although she is now providing less information and more confirmations than earlier.

We only have two recordings made with Guillermo - at age 1:10 and at 4:0 - and thus we cannot say anything about what has happened during the two years between these recordings. However, after two years Guillermo has decreased both his providing and requesting utterances. Only 24% of his providing of information is now somatic. His mother has reduced her requesting for action and confirmation and increased her providing by 12% from 46% to 58% to provide mainly information and confirmations.

Rupert, the Swedish boy, has increased his providing to 93% after two years, at the age of 3:11. Just like Sergio in his recording after one year in Sweden, Rupert is very independent in his last recording. He is even reluctant to participate at all. Probably as a consequence his proportion of somatic providings of information is high - 65%. As a consequence of his reluctance his mother increases her requests, especially for informadon, at the expense of her providings of information. She wants him to join her in conversation.

Table 4.13 shows the mean percentages of the most important function categories in which we find the mothers and the children both at the beginning and at the end of the study. Julio is not included here for age reasons.

Table 4.13 Mean percentage values per major function category, all dyads at age 1:10-1:11 and 3:9-4:0 (except Julio).

Age 1:10-1:11 Function	IA children	Sw. child	IA mothers	Sw. mother
Provide	76	922	48	65
identification	6	11	8	1
information	58	67	16	27
confirmation	6	9	19	35
Request	17	4	43	33
identification	7	1	6	5
information	2	1	12	4
action	14	2	9	4
confirmation	-	-	17	20
Age 3:9-3:11 Function	**IA children**	**Sw. child**	**IA mothers**	**Sw. mother**
Provide	77	93	59	55
identification	13	3	4	5
information	44	63	23	37
confirmation	13	13	22	8
Request	10	6	20	40
identification	3	-	8	3
informauon	3	3	13	16
action	2	1	5	8
confirmation	4	2	9	13

At age 1:10-1:11 the Swedish child is mainly providing, and he is providing more than the IA children. They on the other hand are requesting more, in particular identification and action. Similarly, the Swedish mother is providing more than the IA mothers. This dominance only holds, however, for the providing of information and confirmation, whereas the IA mothers dominate the providing of identification. As their children, the IA mothers request more than the Swedish mother. At this early stage they do not however request identification more than the Swedish mother, since their children would not know anyhow. Instead they concentrate on requesting information, action and

confirmation. The Swedish mother's share of confirmation requests is quite large, as the language of a two-year-old does indeed provide many such opportunities. One might have expected the IA mothers to request confirmation to a higher extent. It might be that the low figure is a result of their consideration. Maybe they feel they would hurt their children's feelings if they kept questioning everything they did not understand. It may also be that some IA children are easier to understand than others - and some are more difficult to understand (cf. the frequent use of confirmation requests of Paolo's mother).

At age 3:9-3:11 the Swedish child is still mainly providing. Now we find the opposite pattern with regard to providing of identification - the IA children are dominating, maybe as a result of their often being asked for identification. Neither the Swedish child nor the IA children are much concerned with requesting, but only the IA children request identification. The mothers now use approximately the same total shares of providing and requesting. They provide the same amount of identification, but the IA mothers use more effort on providing confirmation than the Swedish mother, who provides more information instead. This may be because the IA children need (or at least their mothers feel they need) more support in the form of confirmations. The IA mothers request more identifications than the Swedish mother, who dominates regarding the request for information, action and confirmation. We must also bear in mind that this is the recording where the Swedish child did not want to cooperate, and consequently the mother becomes extra requestive.

4.5.2 Results - utterance form

The mothers' and children's choice of syntactic form per verbal utterance is presented in table 7 in the Appendix. Generally, the percentage of one-word-utterances decrease, with a few temporary exceptions.

0 months after adoption (for Sergio 1 and for Julio 2 months after adoption): Juan, being silent, must of course be excluded from analysis at this stage. Paolo, using a few Swedish words and some Spanish, and Sergio, who uses very few Swedish words but no Spanish, only use one-word utterances in Swedish. Paolo does produce two- and three-word utterances in Spanish. These are however excluded from analysis. Also for Guillermo, who was adopted at 8 months of age, the one-word utterances dominate. He is producing a considerable amount of imperatives, and we recall that he was one of the boys who made many requests for action in the first recording. The other child to do this was Paolo, and since we cannot find any imperatives at this stage we can conclude that his requests for action were nonverbal. In spite of his age, Julio produces 100% one-word utterances. The Swedish boy Rupert, on the other hand, who has an MLU (word) of 3.7, produces many one-word utterances, but also a certain proportion of declaratives and a few interrogatives and imperatives.

The mothers also differ in their use of syntactic form. Could this be because of the interactive styles of their children? It appears to be so.

Juan's mother, a mother of a silent child, does not use a lot of questions - her silent boy would not be able to answer. Instead she uses a comparatively high proportion of imperatives (cf. the use of requests for action as shown in table 5a). Paolo's mother uses many questions (cf. the use of requests for confirmation) but approximately the same proportion of declaratives as Juan's mother. She uses hardly any imperatives. Sergio's and Julio's mothers also use a large amount of one-word utterances. Could this be a reflection of the children's behaviour? Is Sergio's mother affected by the low rate of verbal utterances produced by Sergio and by his dominating somatic behaviour? And is Julio's mother affected by his one-word utterances? Paolo's mother does not mirror his one-word dominance, but then Paolo is also talking and 'chattering' a lot with long vocalisations and not at all silent. Guillermo's mother mainly produces interrogatives and declaratives. The Swedish mother uses mainly declaratives (provides information and confirmation) and questions (cf. requests for confirmation) but hardly any imperatives. Guillermo and Rupert are children who produce relatively small proportions of one-word utterances, Juan is not saying anything, and Paolo appears to be saying a lot. Is this why their mothers have smaller proportions of one-word utterances than Sergio's and Julio's mothers?

6 months after adoption: All children still use mainly one-word utterances (there is no data for Guillermo). The percentage has, however, decreased, especially for Paolo and Rupert. For all children except Julio, who is using more interrogatives, it is the share of declaratives which is increasing.

The mothers' behaviour does not change much. Juan's mother is using less and less imperatives as the boy starts talking. Sergio's mother is now using a much smaller proportion of one-word utterances in favour of her declaratives.

12 months after adoption: For Juan, Paolo, Sergio, and Julio the one-word utterances still dominate the production (there is no data for Guillermo). Juan's share of one-word utterances is quite large compared to Paolo's (78% vs. 40%), and his next most common form is the imperative. In table 5a we noticed that Juan's most common request was request for action, which one can assume would be formulated in the imperative, at least by a small child. Paolo's next most common form is the interrogative, possibly because his mother is using many questions. This is closely followed by the declarative. His most common request was request for identity, a function normally performed as a question. Sergio is only producing one-word utterances and declaratives, and we know from table 5c that he was almost exclusively providing and hardly requesting at all. Julio is still using a lot of one-word utterances and only a few declaratives and interrogatives. For Rupert the declarative by far dominates other syntactic forms, and according to table 5f he does not make many requests.

At this recording the difference between the mothers is no longer as evident as earlier. Juan's mother has ceased using imperatives and is now producing an equal proportion of declaratives and questions. Paolo's mother still produces almost 50% questions (just like 50% of her utterances were requests). Sergio's

mother has increased her share of questions to 45% by the time her child has started to talk more. Julio's mother also produces equal shares of questions and declaratives. Rupert's mother, on the other hand, only produces 25% question, but 51% declaratives. A frequent use of questions may be because the IA children still need to be stimulated in order to get talking or because they are still more difficult to understand, whereas the Swedish boy knows enough language and is independent enough to engage in the conversation by himself.

24 months after adoption: The one-word utterances no longer dominate the production of the IA children; it is now the declaratives which are dominant. This applies to all children except Julio, whose verbal development seems to be delayed, and for Sergio, who is very close to a 50/50 use of declaratives and one-word utterances. It also appears that interrogatives are used more frequently by the two children who have been in Sweden the longest - Rupert and Guillermo. The other children are not so varied in their use of different syntactic forms but use mainly declaratives or one-word utterances. The high use of interrogatives by Paolo after one year and by Julio after 6 months in Sweden (and possibly also by Rupert, the Swedish boy, at the age of 2:11) may be explained by the fact that they are using unanalysed question formulas like 'What's that?', 'Who's this?', etc. and that the figures obtained after two years in Sweden are representing properly analysed utterances.

Some mothers use mainly interrogatives (Sergio's, Guillermo's, and Julio's mothers), but the others are either mainly declarative (Rupert's mother) or are changing from time to time (Juan's and Paolo's mothers). A weak tendency exists for all mothers except Rupert's towards a maternal use of around 30% one-word utterances as the child grows older and communicatively more independent. We know from earlier that in this last recording Rupert is not cooperative. We can also see that at this stage his one-word utterances have increased at the expense of both declaratives and interrogatives.

4.7 Summary of results

Summarizing the results of this chapter we can say that immediately after adoption there are obvious differences both between IA children and Swedish children and between different IA children, but that these differences have decreased considerably after the IA children have been in Sweden for two years. The most important differences are the following:

Immediately after adoption the IA children seem to choose one or two main channels of communication, settling for a communicative style. It may also be that the children are actually bringing with them their Columbian style, which has of course already been established by the time the children are two.

Juan and Paolo, both adopted at 1:10, settle for quite different channels of communication. Whereas Juan starts off with a 'silent period', Paolo is using

predominantly Spanish and 'chattering' vocalizations. Sergio can be characterized as a blend of Juan and Paolo in that he is nonverbal and mainly somatic, but he is also vocalising. Julio, adopted at 4:3, was neither silent nor chattering, but used initially one-word utterances and later on word combinations.

It is difficult to observe any obvious pattern of *strategy use* among the children, except for the fact that it is only the adopted children who make use of language learning strategies. Not even Guillermo, adopted at 0:8, uses any language learning strategies. On the mothers' behalf, on the other hand, we see that it is the mothers of the young adopted children (adopted at 1:10) who use the most strategies. These are mainly communicative but also include a larger amount of social strategies than the other mothers. Language teaching strategies are used more by mothers of recently adopted children than by the Swedish mother or by Guillermo's mother (whose boy has spent more time in Sweden than the other boys). The naming and checking strategies are the most common language teaching strategies, and the naming strategy is used earlier than the checking strategy. The Swedish mother and the mother of Guillermo, adopted at 0:8, do not use many naming strategies at all, unless they have done so at a stage already passed through when this study started.

All mothers are extremely attentive towards their children and *respond* to almost all child initiatives. Strong initiatives often get a 100% response score, whereas weak initiatives are occasionally neglected. The children follow this pattern but to a lesser degree. All children except the three boys adopted at 1:10 respond to 60-70% of their mothers' initiatives, whereas it takes Juan 6 months and Paolo and Sergio 12 months to reach this level.

In their use of different *utterance functions,* all children use more utterances for providing than requesting, whereas their mothers use approximately 50% of each category. The children mainly provide information, and to some extent also identity of objects. The share of somatic providing of information is decreasing for all children. However, the children adopted at 1:10 start at around 100% of somatic providing utterances, the boy adopted at 4:3 at 78%, and the Swedish boy and the boy adopted at 0:8 at around 50%. Eventually the share of somatic providing of all boys ends up at around 20-30%, except for Juan with 38% and Rupert with 65%. Rupert's high share is however explained by his uncooperativess in the last recording. No particular utterance function can be singled out as dominating when it comes to requesting, but none of the children use request for confirmation to any greater extent. The mothers provide mainly information or confirmation, whereas no particular category is requested more than another. The mothers' use of utterance functions does on a number of points reflect the children's interactive styles.

Similarly, the mothers' use of different *utterance forms* is to some extent governed by the children's interactive styles.

5 Verbal development

It is important to have some information about the children's verbal development, both with regard to their use of the original language and to their development of Swedish. I will therefore make comments first on their possible use of the original language, Spanish. Secondly, I will present their results from a number of tests undertaken after the two-year period of the investigation was completed. Finally, this chapter contains an analysis of the children's spontaneous speech.

5.1 Use of original language

All of the children had started talking in their original language - Spanish - at the time of adoption. To what extent is not known. The families reported that the children did speak Spanish with people they met while still in Columbia, so obviously they had the means to talk a little. I did not have the chance to test their original language, and even if I had had the possibility it might not have worked out, since IA children are reported to be very reluctant to speak their original language when invited to do so by strangers (cf. Chapter 1).

Since the children were language switchers, one might expect them to try and use their original language in their new families, and as we have seen in Chapter 4 some of them did to various degrees. Paolo used a lot of Spanish in the first recordings, while Juan and Sergio used it very little. None of the mothers spoke Spanish, which was actually a condition on their participation in the study. Furthermore, the mothers generally did not always notice when, if at all, their children did use Spanish.

In Juan's, Sergio's, and Julio's cases the use of Spanish was very limited and restricted to one-word utterances. I refer the reader to Chapter 4, section 4.2.3 for details of their utterances.

Paolo really tried to use Spanish in the beginning. Immediately after arrival in Sweden his verbal utterances were 92% Spanish, after two weeks 78%, and after one month 45%. Either his mother did not realise this or perhaps she did, but ignored it since she did not understand. In addition, Paolo's utterances were often accompanied by somatic gestures which made the utterance redundant enough to be interpreted. He uses some two-word and three-word utterances,

and sometimes even longer phrases, so it should be reasonable to judge his Spanish as age-adequate. Some examples of his longer utterances are:

Utterance	English translation	Situation
esta vacio	it's empty	Looking into mug
de doy	I give you	Handing over shoe to mother
lo dejo	I give it	Handing over shoe
pari (para ti)	to you	Handing over shoe
no hay mas	there is nothing more	Looking into empty bag

There are several examples of misunderstandings. In the following section Paolo is trying to tell his mother that he must go to the bathroom:

(1)

Child:	banp (bathroom)	*Stands up, reaches for mother*
	ban_o	
	barip	
Mother:	ja va Ville du?	
	(yes what did you want?)	
C:		*Moves around her*
	(…)	*Touches her elbow, to make her rise*
	(…)	
M:	hm?	
C:	(…)	*Takes her hand*
M:	va ska vi GOra?	
	(what shall we do?)	
C:	banp	*Pulls her*
M	mm	
	ska vi inte titta i/leka HÄR i stället?	*Points at the toys*
	(shall we not play here instead?)	
C:	(…)	*Pulls her*
	bo:ta maima (potta mamma = pot mummy)	
M	ska du inte sitta DÄR?	
	(shouldn't you look there?	
C:	(…)	*Pulls her*
M:	va?	
	Paolito?	
	(…)	*Lets go of her. Goes to his room*

(C2)

After three months in Sweden Spanish is only used in routinized and automatic phrases, such as 'si' or 'no' or as aname for very frequently used toys, such as 'nino' (child), 'bebe' (baby), 'chopo' (pacifier) etc.

I also have some examples of language mixing from Juan, whose mother was extremely good at taking notes and remembering utterances of her boy. Apart from the examples in table 5.1 I do not have any further documented examples of language mixing either from Juan or from any of the other boys.

Table 5.1 Language mixing, Juan [1:10].

Appr. time after adoption	Age	Utterance	Comment
2 months	2:0	anka mio	= my duck (anka [Sw. for duck], mio [Sp. for my], Sp. word order
		pumpa agua	= pump water (pumpa [Sw. for pump], agua [Sp. for water].
		picoliten	= very little (pico [Sp. for small], liten [Sw. for small].
3 months	2:1	mamma mi vänta	= mommy wait for me (mamma [Sw.], mi [Sp. for me], vanta [Sw. for wait], Sp. word order
		mamma pappa mi	= mommy, daddy and me
		hitta mi boll	= find my ball (hitta [Sw. for find], mi [Sp.], boll [Sw. for ball].

5.2 Test results

To get an impression of the children's verbal knowledge other than what was given in the recordings, both with regard to production and comprehension, I decided to subject them to a number of tests after the two-year period was completed. It is a well-known fact that it is difficult to test children and that tests do not always reveal the children's potential. Just as well-known is the fact that the existing Swedish tests have many weaknesses. However, the tests I have chosen are frequently used and can thus be used for comparison. Unfortunately, it falls beyond the scope of this study to construct tests specifically adjusted to the typical weaknesses found in IA children. On the other hand, these weaknesses seldom appear at such an early age as 4, but not until the children are 10-11 years old.

I have chosen three tests focussing on different linguistic aspects:

1. Word use was tested with Bo Ege's (1974) quick and simple *Sproglig test 1*. In this test the child is shown pictures of objects, animals, and people and is asked 'What is this?'. The child's reply is then given points, based on the level of naming he used. If, for instance, the child is shown a picture of a car, he will receive one point if saying 'brr-brr', two points for 'car', and three points for 'Volkswagen'.

The test also includes some collectives, such as fruit (picture showing an apple, a banana, an orange, and a lemon), furniture (picture showing a table, a chair, a sofa, etc.) and animals (picture showing different animals).

One advantage with the test is that children understand it (at least all the children I tested). They know how to answer and do not misinterpret the questions. One might, however, ask oneself what decides which level the child chooses to use when naming the pictures. Does it really represent the child's 'optimal' level, or is the level chosen more by coincidence, or governed by the associations one particular child may make given one particular picture?

2. The children's production of grammatical features was checked by using *'Nya Lundamaterialet'* (Holmberg & Stenkvist 1978). This test covers plural endings, adjective agreement, plural agreement, gender agreement, possessives, negation, prepositions, and tense constructions.

Nya Lundamaterialet is more difficult for the children. Some pictures are hard to identify (e.g. a kind of milk package which is not used in this part of the country). Furthermore, the last couple of pictures are of the kind where the child is invited to speak spontaneously. All the children I tested had problems here. After having been asked questions in a fairly strict way it seems difficult for them to shift over to talking more freely, and they all needed a lot of encouragement and prompting in order to complete the test. One advantage in this respect is that the investigator is given the choice of using different prompt strategies (wh-questions, 'fill-in-the-blank'-prompts, etc.).

Furthermore, *Nya Lundamaterialet* is not standardized. It has, however, been used in a number of studies (e.g. Ackheim, Holmberg, & Stenqvist 1976), so comparisons will be possible.

3. Language comprehension is tested with the SIT-test (Hellquist 1982) - *Språkligt Impressivt Test för barn* (Linguistic Impressive Test for children). It is stated in the test that used in combination with tests measuring children's expressive performance (such as *Nya Lundamaterialet),* SIT will provide a richer basis forjudging children's linguistic competence. It may be used for children of three years and above. The test consists of grammatical constructions that can be expected to be mastered by seven-year-olds and covers plural endings, verb tenses (present, future, conditional, and past tense), adjective agreement and comparason, adverbs, pronouns, prepositions, conjunctions, negation, and expressions with several variables. The test is of the multiple-choice kind - the children are given a statement. Shown three pictures, and are asked to point at the appropriate picture. This does of course involve a risk of guessing. Another disadvantage of the SIT-test is that the pictures are sometimes difficult to interpret. However, it was easier to administer than *Nya Lundamaterialet,* and all the children understood the task.

5.2.1 Word use

Testing the children with Ege's *Sproglig test 1* gave the results presented in table 5.2. The test comprises 21 words/concepts, and each word can render 1, 2, or 3 points, depending on what level is chosen. I give the total score of the test, a breakdown for each point level (including information about pictures not named), and the mean score of all replies. At the age of four a total score of 31-37 (mean score 1.48-1.76) can be expected; at six years of age the total score is 41-45 (mean score 1.95-2.14).

Table 5.2 Test results, Ege's *Sproglig test 1.*

	Juan	Paolo	Serg.	Guill.	Julio	Rupert
Ad. age	1:10	1:10	1:10	0:8	4:3	Sw.
Test age	3:10	3:10	3:9	4:0	6:3	3:11
Total (max. 63)	45	47	31	40	38	37
No. of 1's	1	5	6	3	7	5
No. of 2's	13	6	8	11	11	10
No. of 3's	6	10	3	5	2	4
Not answered	1	-	4	2	-	2
Mean	2.14	2.23	1.48	1.90	1.80	1.76

All adopted children reach at least average scores, sometimes more, except for Julio, who scores slightly below his age group. Furthermore, Juan and Paolo, adopted at 1:10 years of age, score higher than the rest of the children. The differences between the boys are not extreme, but a tempting interpretation would be that Juan and Paolo are at an earlier stage in their language development than Guillermo and Rupert, who have had more time of exposure to Swedish. Juan and Paolo have experienced broken development in their original language. At this early stage they are occupied with words and word forms, whereas Guillermo and Rupert have already passed this stage and are therefore content with a correct but not so specific naming of the picture seen. Sergio has, because of his somewhat lower age and maybe also because of his difficult background experience, not yet reached this stage. Julio is an example of delayed verbal development, and I do not believe that his low score is the result of him having reached a higher stage in development.

5.2.2 Grammar

Nya Lundamaterialet is not a standardized test; i.e. it does not give points and there are no figures to compare with. I have therefore chosen to count the number of replies which are incorrect according to the test key, but I will also comment on the 'errors', or items not mastered, as I would prefer to call them. The test consists of 68 tasks, of which 4 are open questions. Out of the 64 closed questions, 72 slots are to be filled with one or more words (table 5.3). The remaining 4 questions will be treated separately (table 5.4).

The results of table 5.3 do not differ from the findings of Ackheim, Holmberg, & Stenkvist (1976), who tested Swedish preschool children of 4-4:5 years of age. The kind of categories not mastered by the children in my studies are of the kind where we could expect four-year-olds to fail. However, within my group some differences are obvious. The children who were adopted at

Table 5.3 Test results, *Nya Lundamaterialet* (first 64 questions).

Child	Juan	Paolo	Serg.	Guill.	Julio	Rupert
Ad. age	1:10	1:10	1:10	0:8	4:3	Sw.
Test age	3:10	3:10	3:9	4:0	6:3	3:11
Number of errors:	9	16	21	2	12	3
Kind of errors:						
Word choice[1]:						
'skriver' (is writing)	x	x				
'frimärke' (stamp)	x	x	x	x		
'rita' (draw)			x			
'pipa' (smoking pipe)			x			
'skägg' (beard)			x			
Plural:						
'böcker' (books)					x	
'bananer' (bananas)			x			
Adjectives:						
'större' (larger)	x		x			
'störst' (largest)	x	x	x			
'mindre (smaller)	x	x	x	x	x	
'minst' (smallest)	x	x	x		x	
'fortast' (fastest)		x			x	
'tjock' (thick)		x				
'tjockare' (thicker)		x	x			
'tjockast' (thickest)		x	x		x	
Possessives:						
'kattens' (the cat's)		x				
'hans' (his)		x	x			x
'hennes' (her)	x	x	x		x	x
'min' (mine)		x				
'din' (yours)	x	x				
Prepositions:						
'under' (under)			x			
Y (inside)			x			
'bakom' (behind)			x			
'framför' (in front of)	x		x			
'bredvid' (beside)			x			
'på' (on)			x			
'mot, till' (towards)					x	
'av, från' (of, from)			x		x	
'med' (with)			x		x	
Negation:						
'kan inte klättra' (can not climb)		x				
'gungar inte' (does not swing)		x				
'tycker inte om' (does not like)			x			
Future:						
'ska åka' (will travel)					x	
'ska bada' (will swim)					x	

around age 2 or older do in fact master less categories or constructions than the Swedish boy and Guillermo (adopted at 0:8) who master almost all categories of the test. Furthermore, Paolo - the Spanish-speaking boy - and Sergio - the boy

[1] In the onginal test there is a part testing phonology. I have used this part as a combined vocabulary and plural endings test. Difficult words were 'writing', where the children preferred 'drawing', and 'stamp', which all children named 'sticker'

with a very difficult background - are those who score lowest. Many constructions remain to be mastered by the oldest boy and late language switcher, Julio.

In the effort of trying to rule out the possibility that the children made 'errors' because they did not understand the questions, I also analysed their spontaneous speech from the last recording (which was made the same week the tests were undertaken, sometimes on the very same day). Indeed, this showed that e.g. among the possessive pronouns the children did perform better in spontaneous speech than in the test situation. This may be taken as an indication that the test tasks are sometimes difficult to understand. The search for grammatical features in spontaneous speech does not, however, give a complete inventory of the child's abilities. The children only produced a few comparatives or superlatives, for example. On the other hand, it was the children who performed best in the test who produced the largest share of adjectives in inflected forms - Rupert and Guillermo - whereas the children adopted at age 1:10 produced only one - Juan - or none - Paolo and Sergio. Cf. table 5.3.

Questions 65-66 are open questions. The child is presented with pictures and is told: 'Yesterday the children went for an outing. What happened?' The child is now supposed to give as many examples of activity verbs in the past tense as possible. This was a difficult task. It was hard to make the children say anything at all, and it was also difficult to make them do it in the past tense. The outcome is presented in table 5.4:

Table 5.4 Test results, *Nya Lundamaterialet* (questions 65-66).

Child	Juan	Paolo	Serg.	Guill.	Julio	Rupert
Ad. age	1:10	1:10	1:10	0:8	4:3	Sw.
Test age	3:10	3:10	3:9	4:0	6:3	3:11
No. of verbs	13	1 1	13	19	16	11
Correct use (according to adult form):						
Strong decl.	8	6	6	6	4	2
Weak decl.	5	3	4	12	7	9
Errors (deviant from adult form):						
Strong decl.		1	1	1	2	-
Weak decl.		1	2	-	3	-

Only Guillermo and Julio really took an interest in the task, although they, too, needed much encouragement and prompting. Worth noticing, however, is the very high number of correct uses of verb forms by all the children.

Questions 67-68 are of the kind with which the investigator tries to elicit wh-questions or yes/no-questions from the child. In the effort of making this as natural as possible, I here made them ask the mothers (/, *when,* and *where* we could have a snack and *what* we would get to have - a task that all children were only too happy to carry out.

5.2.3 Language comprehension

The SIT-test is standardized and includes 40 questions. Results are presented as number of 'errors'. The mean numbers for different ages are:

3-4 years	4-5 years	5-6 years	6-7 years
17	16	8	6

This indicates that quite a large number of items can be expected not to be mastered, especially among the four-year-olds.

Table 5.5 Test results, SIT.

Child	Juan	Paolo	Serg.	Guill.	Julio	Rupert
Ad. age	1:10	1:10	1:10	0:8	4:3	Sw.
Test age	3:10	3:10	3:9	4:0	6:3	3:11
Number of errors	9	10	12	3	4	5
Kind of error:						
Plural: 'skor' (shoes)		x			x	
Verbs:						
present			x			
past		x x			x	x
future	x		x			
Adjectives:						
'mindre' (smaller)			x			
'fortast' (fastest)			x			
'flest' (most)	x	x				
'halv' (half)			x			
'dubbelt så stor' (dubble the size)	x					
Adverbs:						
'där borta' (over there)	x					
'lika' (similar, alike)			x	x		
Pronouns:						
'de' (they)		x				
'hans' (his)		x	x			
Prepositions:						
'under' (under)		x	x			
'bakom' (behind)	x		x		x	
'uppför' (upwards)			x			
Conjunctions:						
'men' (but)	x x	*				x
Multi-variables:						
'han/dem' (helthem)	x					x
'på/vid sidan av' (onlbeside)	x				x	x
'lång/flätorÅåda' (tahVplaits/box)				x		
'bredvid/randig/stor' (beside/striped/big)			x			
'flickan i bassängen' (the girl in the pool)				x		x
Negation:						
'får inte' (may not)		x				
'inga' (none)	x	x				

* misinterpreted on 2 occasions

In table 5.5 I present the results by number of items not mastered, as well as a breakdown of what linguistic categories are not mastered.

Again, the children achieve results well above a normal Swedish group, and again we find the highest amount of items not mastered among the children adopted at the age of 1:10 or later. The difference between Juan, Paolo and Sergio and the other boys is not as clear when it comes to language comprehension as it was in the grammar test, but it is obvious enough.

The most difficult task was to combine the past tense construction 'Mum has already packed their suitcases' with the correct picture. Four of the children did not succeed in doing this. Another difficult item appears to be the conjunction 'but', appearing in the test context 'It's time to go to bed. Lisa is having a bath but not Per', or 'Lisa is going to bed but not Per'. The child is shown three pictures with different constellations of the two children inside or outside the bathtub or bed. Similarly, the items 'most' and 'behind' caused problems for three of the children. Also difficult were the tasks in which many variables were involved - the 'multi-variables'; e.g. 'When the children look out through the window they see a tall girl with plaits who carries a box'.

As in *Nya Lundamaterialet,* Paolo had difficulties with the tasks involving pronouns, expecially possessive pronouns, and Sergio had problems with the prepositions.

Surprisingly, Julio did very well in this test, so obviously he is not having any problems with language comprehension. This is also my impression from interacting with him. He understands well, he is attentive, and he is not difficult to understand, but his verbal language production lies far below the level of Swedish age-matched children.

5.2.4 Summary of tests

The testing procedure can be summarised as follows: Juan, Paolo, and Sergio, adopted at 1:10 years of age, score lower than the Swedish boy and the boy adopted at eight months of age on tests measuring grammatical ability *(Nya Lundamaterialet)* and language comprehension (SIT). It must be emphasized, though, that all children perform much better than the average Swedish age mates, according to the standardised mean scores of the tests.

In regard to word use we find the opposite pattern. Here it is Juan and Paolo who receive the highest scores, whereas the Swedish boy and the boy adopted at eight months get somewhat lower points, together with Sergio and Julio.

The difference is not striking, but a tempting interpretation would be that the Swedish boy and the boy adopted at eight months perform better in the grammar and language comprehension tests since they have a longer and unbroken Swedish development. Juan, Paolo, Sergio, and Julio have of course had their

development of their original language interrupted and disturbed. They do not (yet?) master all the grammatical features tested, and even though they perform very well in the language comprehension test they receive lower scores than their non-adopted and early-adopted matches (except Julio).

It seems that Juan and Paolo concentrate on single words, whereas the Swedish boy and the early adopted boy have passed this stage and are now more occupied with more advanced aspects, such as grammar and language comprehension. The adopted boys will probably reach this stage later on in their development. Sergio and Julio would, for reasons presented in 5.2.1, be exceptions to this explanation.

Or, it might not be a matter of stages. The reason for Juan's and Paolo's higher scores may lie more directly in the adoption and the language switch. Although they have been in Sweden for two years they do not know their mothers as well as Guillermo and Rupert know theirs. Therefore they need words to a much larger extent in communication. A large and varied vocabulary is more quickly developed than a complex grammar. This may explain why many adoptive children are reported to quickly achieve a working 'surface language', which unfortunately does not suffice in the long run when they are expected to use their language more independently. It may also explain why some adoptive children develop an extremely good command of Swedish - these are the children who after or parallel to the expansion of their vocabulary really do acquire a complex grammar. These children will of course become outstandingly verbal. All will have been a consequence of the need to communicate with a mother who was not able to understand them unless they learned the language because she had not experienced their first year or years.

5.3 Verbal analysis after the two-year period

In order to arrive at a more complete representation of the children's verbal language I have chosen to combine the tests with an analysis of the children's spontaneous speech. The analyses are based on the last recording for every child; i.e. after the child had been in Sweden for two years, or at an age-matched occasion for Rupert and Guillermo.

First, I have chosen to concentrate on the feature word order. Child second language learners are reported to be more rigid in their use of Swedish word order (Hakansson, Nettelbladt, & Hansson 1991), and I wanted to see which pattern the IA children would prefer.

Second, and in order to be able to make comparisons with earlier findings concerning the grammatical knowledge and performance of 'normal', biological children, I have analysed the last recording of all children according to a method based on Teleman (1974) and further developed by Hansson & Nettelbladt (1989) for the purpose of describing the language of language disordered children.

5.3.1 Word order - spontaneouos speech

The word order analysis of Håkansson, Nettelbladt & Hansson (1991) focusses on a number of word order phenomena. All the findings in 1-4 are to be found in Håkansson, Nettelbladt, & Hansson (1991), unless otherwise specified:

1. The proportion of *subject-verb vs. verb-subject order* in declaratives. Second-language learners are reported to use an extremely rigid word order, namely subject-verb in declaratives, whereas Swedish first-language learners use more varied patterns with only 45-65% subject-verb order.

2. The sentence element found in *first position* (Da. *fundament';* Diderichsen, 1946). Again second-language learners are reported to be rigid in their choice of element for this position in that they choose the subject in almost 100% of the cases. The Swedish first-language learners have only 50-70% of their subjects in first position; alternating elements are adverbials, objects, and predicates. Furthermore, Swedish first-language learners never violate the 'V/2-rule' or 'verb-second rule', which states that the finite verb must always be in second position in declarative main clauses. Second-language learners often do this.

3. The use of *empty foundations,* i.e. V/1 or verb-first order in declaratives. V/1 is the normal order of yes/no-questions, but the pattern has been found also in declaratives (Dahlbäck & Vamling 1983; Håkansson 1991). Second-language learners have been found never to use this kind of construction, whereas Swedish first-language learners use empty foundations in 5-20% of all declaratives.

4. *Verb-subject order in wh-questions.* In Swedish all wh-questions must have subject-verb inversion, and Swedish first-language learners obey this rule to 100%. Second-language learners, on the other hand, do not always adhere to the rule.

In table 5.6 the results of the IA children and the Swedish non-adopted child of this study are presented. All children behave according to the patterns of Swedish first-language learners found by Håkansson, Nettelbladt, & Hansson (1991).

The IA children of this study adopted at 1:10 or earlier behave like Swedish non-adopted children, in that they do not adhere to the rigid word order patterns typical of second-language learners. An exception to this is Julio, who was adopted at 4:3. He produces a much larger proportion of SV word order, as well as a large proportion of subjects in foundation combined with a small proportion of other elements in this position. This is a behaviour which is typical of second-language learners as well as of some language-disordered children (Håkansson, Nettelbladt, & Hansson 1991). However, Julio differs from other second-language learners in that he does produce a relatively large share of empty foundations, which is typical of Swedish first-language learners (ibid.). Furthermore, he never breaks the inversion rule in his wh-questions or the V/2-

rule in sentences with an adverbial etc. in foundation, something that second-language learners of Swedish often do (ibid.).

Table 5.6 Word order patterns used by IA and non-IA children, percentages.

Child	Juan	Paolo	Sere.	Julio	Guill.	Rupert
Adoption age	1:10	1:10	1:10	4:3	0:8	Sw.
Test age	3:10	3:10	3:9	6:3	4:0	3:11
SV in declaratives	51	57	55	78	52	69
VS in declaratives	49	43	45	22	47	31
Subj. in foundation	51	57	55	78	52	69
Adv., obj., prcd. in foundation	43	37	42	6	32	27
Empty foundation	6	6	13	16	16	4
S/V-inversion in wh-queslions	100	100	100	100	l(X)	100

It should be added that at the time of analysis Julio has spent two years in a Swedish-speaking family. The second-language learning children of Håkansson, Nettelbladt, & Hansson (1991) had only been in Sweden for about six months at the time of analysis, and their kind of environment also differed from Julio's, since they were living in a refugee camp.

5.3.2 Grammar - spontaneouos speech

When attempting to establish grammatical ability of a sample as small as six children it is crucial to allow for comparisons with other studies. It is also important to be able to compare results of certain groups of children (second-language learners, language-disordered children, or internationally adopted children) to the results of 'normal' children acquiring Swedish as their first language.

I have chosen to use a method constructed by Teleman (1974), the 'mamba-analysis', short for *'Manual for meningsbyggnadsanalys'* (Manual for sentence construction). It is based on Loman & Jörgensen (1971) and further developed by Hansson & Nettelbladt (1989) for analysis of the description of the speech of language-disordered children. There exist results from 'normal' 4-year-old (Berglund, Englander, & Hagstrand 1988) and 6-year-old children (Rosen & Wiig 1989) following this analysis. I will only be presenting results where my figures either diverge considerably from the findings of the two above-mentioned studies or where I believe it is important to show how similarly the different groups behave. I am using the version of the analysis presented in Hansson & Nettelbladt (1989).

A mamba-analysis starts with a segmentation of utterances into utterance types. All utterances are classified as being one of the following:

Syntactic sentences (SM). All elements of the sentence can be identified, but the sentence need not be correct.

Ellipses (EL). Utterances which are syntactically incomplete but whose missing elements which can be deduced from the context.
Interjections and stereotypes (IS). These are often answers to yes/no-questions, greetings, onomatopoetic utterances, and other stereotyped phrases.
Utterances with unclear syntactic relations (?S). Utterances which are syntactically incomplete and whose missing elements cannot be deduced from the context.
Utterances that cannot be classified (?). Completely uninterpretable utterances.

After this classification of utterance type follows an analysis in three steps, or levels - *primary and secondary sentence level* and the *lexical level.*

On the primary sentence level we find elements on the same level as the finite verb. These elements are subject, logical subject, formal subject, finite verb, non-finite verb, main verb, predicative complement, direct object, indirect object, adverbials, verb particles, conjunctions, subjunctions, etc. On the secondary sentence level words or phrases which modify the head of a primary sentence element are analysed. Examples of secondary sentence elements are adjective attributes, other premodifiers, postmodifiers, prepositions, adverbials, and double sentence elements. On the lexical level we find different word classes and a classification of possible subordinate clauses.

A proper mamba-analysis also includes an 'error analysis'.

Comparative results: utterance types
A classification of utterances into different types implies some differences between the IA children in my study and non-adopted Swedish children.

Table 5.7 Comparative results in percentages, utterance types.

Child	Juan	Paolo	Serg.	Guill.	Rup.	Julio	4-yr	6-yr
Ad. age	1:10	1:10	1:10	0:8	Sw.	4:3		
Test age	3:10	3:10	3:9	4:0	3:11	6:3		
Category								
SM	51	52	46	58	67	32	54	61
EL	19	14	15	17	18	45	12	14
IS	23	33	29	20	6	19	25	18
?s/?	8	1	9	5	8	4	9	7

Generally, the performance of the IA 4-year-olds does not differ much from the 4-year corpus of Berglund, Englander & Hagstrand (1988). The only detail worth noticing is Paolo's and Sergio's relatively frequent use of interjections and stereotypes (IS's). On the one hand we could argue that this goes hand in hand with earlier findings on their behalf, especially in Sergio's case where we also find a relatively low amount of syntactic sentences (SM's).

Furthermore, Julio is with his limited and slowly developing Swedish producing a much smaller proportion of syntactic sentences than the rest of the children,

and a larger share of ellipses. He does however perform age-adequately with regard to his share of interjections and stereotypes as well as utterances with either unclear syntactic relations or utterances that cannot be classified.

What does go hand in hand with earlier findings, however, are the results of Rupert, the Swedish boy. He is the one producing the largest amount of syntactic sentences and very few interjections or stereotypes. It should be added, however, that a larger proportion of interjections and stereotypes may be a consequence of the play context. Since Rupert is not really very enthusiastic in this recording, his share of interjections and stereotypes is smaller than the other boys'.

Variation in the use of sentence patterns

For analysis on sentence level, table 5.8 presents the variation found in the use of different sentence patterns. I have used both the typeltoken measure introduced by Hansson & Nettelbladt (1989) and the mean number of use of each sentence pattern, which gives the same result, but which I feel is a less 'oblique' measure.

There is a larger variation within the 4-year-old corpus of Berglund, Englander, & Hagstrand (1988) than in my data. According to table 5.8 it is Rupert who has the highest proportional variation and Paolo the lowest. The differences are in no respect extreme, but they follow a now established pattern - the Swedish boy Rupert tends to score higher than the adopted boys. Guillermo, adopted at eight months of age, does not differ much from Juan and Paolo.

Table 5.8 Variation in use of sentence patterns, in percentages.

Child	Juan	Paolo	Serg.	Guill.	Rup.	Julio	4-yr study	6-yr study
Ad. age	1:10	1:10	1:10	0:8	Sw.	4:3		
Test age	3:10	3:10	3:9	4:0	3:11	6:3		
No. of SM	86	86	63	124	52	61		
No. of patterns	44	42	32	61	30	35		
Type/token ratio	0.51	0.48	0.51	0.49	0.58	0.57	0.52-0.82*	0.54-0.71**
Mean no. of use	1.95	2.04	1.97	2.03	1.73	1.74		

* I have calculated these ratios by taking the mean values for all children in the mother-context.
** From the mother-context.

The results in table 5.8 do not, however, do the children's potential full justice. A closer look at the data reveals that Guillermo, who appears to vary little, actually uses 43 instances of sentence patterns used only once, whereas the same figure for the other boys is: Juan 27, Paolo 28, Sergio 26, Julio 25, and Rupert 19. Guillermo is definitely the most productive of all the boys, and in the same amount of time (15 minutes) he produces more than double the number of both syntactic sentences and sentence patterns than some of the boys.

Common sentence patterns

Hansson and Nettelbladt (1989) have also calculated the most common sentence pattern among language-disordered children. In order to enable comparisons also in this respect I have done the same. I have also included the findings from the 4-year-olds' study of Berglund, Englander, & Hagstrand (1988), the 6-year-old's study of Rosen & Wiig (1989), and of the adult data of Jörgensen (1976).

Table 5.9 Rank orders of the 12 most common sentence patterns.

LA children, 4 years (this study)			Swedish 4-year-olds	Swedish 6-year-olds	Adult
Rank	Pattern	N	Rank	Rank	Rank
1.	SS FV SP	37	3	2	3
2.	IAFV SS	34	1	1	26
3.	OOFVSS	24	?*	8	8
4.	SSFVOO	16	2	3	1
5.	SSFVrVIA	14	?*	10	28
5.	SS FVIA	14	5	7	6
6.	CO FV SS IA	9	?*	?*	63
6.	FVSS	9	?*		-
7.	IA FV SS IV	8	?*	?*	116
8.	SSFVIV	7	?*	?*	91
9.	SS FV rv OO	6	4	9	11
10.	OOFVSSrV	6	?*	?*	33
11.	IAFVSSIA	5	6	5′	27
12.	SS FV SA	4	?*	/ ?*	15

* = These two studies only present the 9 and 10 most common sentence patterns of the respective studies.
SS = subject, FS = formal subject, ES = logical subject, OO direct object, FV =finite verb, IV = non-finite verb, HV = main verb, SP = predicative complement, IA = content adverbial (time-, place-, comparative-, and other advs.), OA = object adverbial.

In table 5.9 the 14 most common sentence patterns are presented. We see that the 4-year-old IA children (including the Swedish boy) have 6 sentence patterns in common with all three comparison groups, two patterns in common with two of the groups, and 5 patterns in common with only one group (the adult one). However, both the studies of Swedish children only present the 9 and 10 most common sentence patterns, so it may be that the number of patterns in common with them is larger. Furthermore, the rank numbers of some sentence patterns are strikingly similar.

Julio was not included in table 5.9 because of his age and because he differs from the other children. His most common sentence patterns are presented in table 5.10, together with references to Swedish 6-year-olds (Rosen & Wiig 1989) and adults (Jorgensen 1976). Only his 8 most common patterns are presented, as other patterns were represented by only one instance. It will appear that Julio has more in common with other IA children than with age-matched Swedish children or adults. It appears also that Julio has at least five sentence patterns in common with the language-disordered children of Hansson & Nettelbladt

(1989)[2], at least if we disregard the difference between an inflected or uninfected main verb. Julio does inflect the main verb in most of his examples, while the language-disordered children appear not to do this.

Table 5.10 Rank orders of the 8 most common sentence patterns.

Julio			IA children 4-year-olds	Swedish 6-year-olds	Adult data	Language disordered children
Rank	Pattern	N		Rank	Rank	Rank
1.	SS FVIA	13	5	7	6	3
2.	FVIA	7	?	?	?	8
3	SS FV	4	?	?	52	4
4.	OOFVSS	3	3	8	8	7
5.	FV SS	3	6	?	9	?
6.	IAFVSS	2	2	1	26	9
7.	SS FV PL	2	?	?	?	7
8.	FVOO	2	?	?	?	ii

SS = subject, 00 direct object, FV =finite verb, IV = non-finite verb, IA = content adverbial (time-, place-, comparative-, and other advs.), PL = verb particle.

Another similarity with the other three studies is that a relatively small number of sentence patterns dominates the overall production, while a much larger number of patterns is represented by only a few instances.

Expansions

The ability to expand primary sentence elements into phrases has been regarded as an important aspect of grammatical development (Lange & Larsson 1973) and has been found to increase with age (Hansson & Nettelbladt 1989). In table 5.11 the proportions of syntactic sentences (SM's) containing expansion are presented.

Table 5.11 Proportions of syntactic sentences containing expansion, percentages.

Child	Juan	Paolo	Serg.	Guill.	Rup.	Julio	4-yr	6-yr
Ad. age	1:10	1:10	1:10	0:8	Sw.	4:3		
Test age	3:10	3:10	3:9	4:0	3:11	6:3		
	31	27	21	40	35	21	43-55	39

According to table 5.11 the four-year-old children of my study score a little lower than the four-year-olds of Berglund, Englander, & Hagstrand (1988). We can also note that the six-year-olds of the Rosen & Wiig (1989) study score lower than the four-year-olds of Berglund, Englander, & Hagstrand (ibid.), in spite of the above statement that the ability to expand should increase with age. Obviously we can not compare figures of different children, but must compare

[2] This sample contains 10 recordings with five different children of age 4:2-7:3. The analysis is based on approx. 100 utterances per child (which is in fact less than my data).

the individual children's development over time in order to say anything about increased ability.

Returning to the children of my study, it is nevertheless worth noticing that the trend with higher scores for Rupert and Guillermo and lower for Juan, Paolo, and Sergio is unbroken. Furthermore, Julio scores even lower than the rest of the boys.

When looking for what primary sentence elements are actually expanded we find that all children expand subject, predicative complement, direct object, object adverbial, and content adverbials. Coordination is not used very much, but it is used by all children except Julio. Subordination is used by all children and the most common type is the relative clause (all children except Julio). Guillermo, Paolo, and Sergio use that-clauses, and Julio uses one indirect question.

In regard to the use of different sentence element types we find variation in all children except for Julio, who only uses prepositions, premodifiers (only articles), and adverbials, but no adjective attributes and no postmodifiers.

'Error' analysis

As a linguist I am not very fond of the concept of 'error'. Small children acquiring a language are somewhere on the path towards their target language, which is the adult version. They are not making errors; they are making progress. Their production is an approximation; it is their version or their interpretation of the adult version, and this should not be labelled error. A less dramatic label I think is 'item not mastered', if the adult version is the norm.

The children of this study seem to master almost all items they are using. Their percentages of 'correct', i.e. adult-like syntactic sentences, are the following:

Juan	92%
Paolo	98%
Sergio	98%
Guillermo	97%
Rupert	94%

The number of items not mastered is of course dependent on how complex or difficult constructions the child is actually trying to produce. All children omit auxiliaries, articles, or prepositions - however only once or twice per recording. They also misplace one or two negations.

Omission of subject is an error category mentioned e.g. in Hansson & Nettelbladt (1989). Following Håkansson (1991) I do not regard this phenomenon to be an error, but a variety used both in child and adult language. In fact, 10-19% of the mothers' declaratives in this study are introduced by a verb.

Similarly I have not counted utterances like *'dom härs cykel'* [= these's bike] as errors. Such utterances are not in line with adult standard Swedish, but they are actually quite logical and very reasonable for a four-year-old. They could

probably also be produced by an adult. Neither do I count the use of 'wrong' personal pronouns as errors - e.g. 'he' instead of 'him'; as in *'Jag sag han'* (= I saw he) in stead of *'Jag sag honom'* (= I saw him). This actually appears in many adult versions of Swedish, although it is not 'standard'.

The only child who can be described as not yet mastering the forms and constructions he is trying to use is Julio. With his much lower proportion of syntactic sentences (32%), his interlanguage consists of many constructions which we do not find in the younger children's samples. Julio produces many omissions of auxiliaries, of main verbs, of subjects, or of prepositions. He often violates word order rules. Even under a quite liberal judgment only 75% of his syntactic sentences can be regarded as corresponding to the adult version.

Some examples of non-adult-like sentences are:

Utterance	Possible target utterance and comment
de kan ställ där (it can put there)	*de kan stå där* (it can stand/be there) The use of *ställ* (imp. of put) instead of *stå* (inf. of stand).
vet ja inte den va (know I not it was)	*vet ja inte vad den va* (know I not what it was) or *vet ja inte var den ska va* (know I not where it should be) Omission of *vad* (what) or *var* (where). Also omission of subject.
han svetti kom jobbet hem (he sweaty came the work home)	*han var svettig när han kom hem från jobbet* (he was sweaty when he came home from work) Omission of auxiliary, omission of time adverbial, omission of subject pronoun, omission of preposition.

Examples in which we never find any disagreements with the standard adult version are the kind of phrases which are probably learned as wholes, such as:

de går inte (it does not work)
va e de? (what's that?)
ja vet inte (I don't know)
kommer inte ihåg (don't remember)

Furthermore, Julio is the only child to make errors with grammatical gender. He uses forms like:

vasket (the sink) for vasken
ett tårta (a cake) for en tårta
ett stekpanna (a frying pan) for en stekpanna

All the above are examples of overgeneralisations of the neuter gender, where the correct form should be the uter. I have no such examples from the younger boys' samples. According to Andersson (1992), errors in the application of grammatical gender are more common in late second-language learners (children starting to learn a second language after the age of three years) than in early second-language learners (who start to learn a second language before the age of three). Swedish first-language learners practically never make these

mistakes. One reason why I do not find this kind of errors among the early adopted children may be that their exposure has been of a much different character than that of Andersson's children, who are immigrant children. IA children have a more intense and first-language-like contact with Swedish in their families than immigrant children, and may therefore learn more quickly - at least if adopted young enough.

Julio's mother has noticed that her son has problems with grammatical gender and often explicitly tries to teach him the gender of the objects used in the recording by either asking him to say the article before the noun, or by doing it herself with extra stress on the article.

5.3.3 Summary of spontaneous speech analyses

Summarising the findings of 5.3.1 and 5.3.2 we can say that:

1. Concerning word order, all the LA children adopted at 1:10 or earlier behave like Swedish first-language learners do; i.e. they use both subject-verb and verb-subject order in declaratives. Subjects are put in the foundation position in only about 50%, and adverbials, objects, or predicates in 30-40% of all declaratives. Empty foundation occurs to the same extent as for Swedish children: 5-20%. In wh-questions the IA children, like Swedish children, obey the V/1-rule to 100%. The late adopted child (adopted at 4:3 years) adheres to some of the patterns typical of second-language learners for as long time as two years after adoption: a preference for SV-word order, and a preference for subjects and reluctance towards other elements in foundation position. He does, however, also use empty foundation constructions and always places the verb first in wh-constructions.

2. In the area of grammatical (morphologic and syntactic) ability there appear to be some differences between IA children and Swedish children. This can be seen specifically in their use of expansion in syntactic sentences in that they expand less than Swedish children. There is also a weak tendency towards a less varied use of different sentence patterns in IA children than in Swedish children. Other differences in the use of utterance types and most common sentence patterns, however, appear to lie more on the individual level.

The performances of both Julio, the late adopted child, and of Sergio, adopted at 1:10, are weaker than that of the other children, whether adopted or not. They produce fewer syntactic sentences and fewer expansions, and Julio produces more ellipses. They do expand the same types of sentence elements as the other boys, but are using a much more limited number of different secondary sentence elements than the rest of the children. Julio further produces more 'errors' than the early adopted children after the same time of exposure to Swedish.

The low rate of 'errors' found (except in Julio's case) may be a result of the children's using only constructions they know, they do not try to say anything they have not mastered. This may again be the reason why IA children are often

judged as 'fluent' in everyday conversational situations, while they may sometimes be found to lack the language skills required in the school situation.

5.3.4 Comparing with other studies

The only previous study of IA children that would allow for comparison is Hene (forthc.), who finds that 10-12-year-old IA children are good at both production and comprehension, but that some slight weaknesses can be found in comprehension. It is of course difficult to compare the results of 4- and 6-year-olds to those of the much older children of Hene's study, who have had a longer time of exposure to Swedish. Furthermore, we used totally different testing methods. Nevertheless, it seems that our results show the following development:

Production

Naturally, production improves over time. While almost all the children of my study, adopted or not, performed age-adequately, they did better the longer their time of exposure to Swedish had been. In Hene's study any differences in production between IA and non-IA children were extremely subtle.

Comprehension

The children of my study performed well in the comprehension test, and their results were positively related to both a higher age and a longer exposure to Swedish. Hene's results were that IA children performed well in comprehension, except for the meaning of literal expressions and lexicalised phrases. The test I used, designed for children of 3-7 years, did not contain any examples of these more advanced expressions.

The results of Hene (forthc.) and the present study support the theories with reference to second language acquisition of Cummins (1979) and Skutnabb-Kangas (1981) presented in Chapter 1: With few exceptions IA children will develop an age-adequate production and comprehension that works in everyday situations relatively soon after their arrival in Sweden. Some of them, however, do not reach an age-adequate level with regard to comprehension of certain linguistic features (see above). The reason for this is probably that they have had a much shorter time of exposure to Swedish than Swedish-born children. Their timing will be 'wrong'. At the age when their Swedish age-mates are developing their more delicate aspects of language comprehension, the IA children may be busy expanding their vocabulary and learning basic grammatical rules. Other factors may be involved, such as a more or less conscious motivation or purpose of learning the language, etc. Many IA children may be primarily concerned with the task of making communication work and cannot 'afford' to spend the time and effort required to learn the more refined abilities. I would agree with Hene (forthc.) that in many cases it is rather a matter of language delays than of language deficiencies when IA children are not performing age-adequately. They have simply not yet reached the same stage of development as the Swedish children they are being compared with.

6 Summary, conclusions and implications

6.1 Summary

In sum, the communicative and verbal development of the different children has been the following:

Juan, [1:10]

Juan started off with a 'silent period' lasting for approximately one week and during which he communicated exclusively through nonverbal signals. His mother quickly adjusted to this behaviour, producing a large proportion of requests for action as well as giving frequent confirmations of the boy's behaviour and providing the names for objects of interest to the boy. The mother's requesting of action decreased when the boy started to talk and changed to requests for information. The interaction between Juan and his mother can from very early on be characterised as being *cooperative*. The mother shows a high degree of responsiveness towards the boy, and already after six months' stay in Sweden the boy has reached the responsiveness level of non-adopted Swedish children.

With respect to the verbal language, we find that after two years in Sweden Juan has reached a status above that of age-matched Swedish children. He makes very few 'errors', both in test situations and in spontaneous speech.

Paolo, [1:10]

Paolo initially tried to use Spanish with his adoptive mother, who did not understand it. He continued to try for about one month's time, then he gave up the Spanish and started using Swedish one-word utterances combined with nonverbal signals. His mother's communicative behaviour during this initial phase contained many requests for confirmation. As she began to get used to Paolo she provided more and more confirmations of his behaviour. Like Juan's mother she also provided names for different interesting objects. The interaction in this dyad can, in its early stages (0-6 months after adoption), be characterised as *vague and independent*. Even though this becomes less obvious later on, there still remains a certain lack of cooperation in this dyad, which is reflected by fairly short mean lengths of turn strings on different interactive levels. It takes Paolo six months longer than Juan, i.e. until after one year in Sweden, before he has reached a response profile of a level similar to the other children of the study.

Verbally, Paolo does reach an age-adequate level in the two years of the study. Grammatically, he is together with Sergio weaker than the other 4-year-olds, adopted or not. His spontaneous speech contains hardly any 'errors' at all.

Sergio, [1:10]
When Sergio arrived in Sweden, at the age of 1:11, he had already been together with his new parents in Columbia for a month. During his first 6 months in Sweden he used mainly the somadc or vocal-somadc channel of communication. As he started to use more verbal language, his mother's share of requests for confirmadon increased, and at the end of the study, when she was more used to him, she was able to provide confirmadon instead of requesting it. Also in this dyad the inidal phase (0-6 months after adoption) can be characterised as *vague and independent,* with some concentration difficulties. There is not much cooperation to be found. In this dyad both the mother and the child need some time to reach a responsiveness of a level similar to the other dyads. After the end of the study the vagueness has changed to a more *cooperative* behaviour. Concentration does, however, appear to be difficult even at the end of the study.

Sergio's verbal language reaches an almost age-adequate standard within the two-year-period. When compared to the other children of the study, he does not reach their grammatical scores, and his spontaneous speech is not age-adequately developed in terms of his use of utterance types and expansions of syntactic sentences. His spontaneous speech contains virtually no 'errors', however.

Julio, [4:3]
Julio arrived in Sweden at the age of 4:5, but had then been together with his adoptive parents in Columbia for two months. He had a very poor command of his original language, Spanish. Nevertheless, he communicated very well, both with his mother and with me, through all possible means - mainly single word utterances in combination with gestures. Communicatively, he does not differ much from the younger boys, and in terms of responsiveness he scores better already from the beginning. The interaction in this dyad can be characterised as *restricted but cooperative,* since both Julio and his mother are really doing what they can with their very limited resources.

Verbally, Julio does of course make progress, but very slowly. After completion of the study, at the age of 6:3, he scores far below his age-matches in grammar and vocabulary, whereas his language comprehension is well developed. His spontaneous speech is poorly developed and contains both 'errors' and 'oddities'.

Guillermo, [0:8]
Guillermo was adopted already at the age of eight months. I have only made two recordings of him, at ages matching the ages of Juan, Paolo, and Sergio in their first and last recordings. What is striking about this dyad is that in both recordings the mother hardly gives any identification at all of objects - Guillermo does this himself. On the other hand, she makes some requests for identification of objects, so as to check whether the boy knows the words. Guillermo makes many requests for action because he wants some difficult

actions carried out (changing diapers on the doll, putting on a bib, etc.). Their interaction can be characterised as *independent and cooperative,* independent because Guillermo is often taking the lead, producing the longest mean lengths of topical strings (cf. table 4.3). Furthermore, at the end of the two-year-study, Guillermo reaches the highest responsiveness of all the four-year-olds - 71% - and already at the age of 1:10 he scores higher than the three boys adopted at 1:10.

Guillermo started to talk very early, and at the age of four he was quite advanced. In fact, he receives the highest scores in the grammar and language comprehension tests (closely followed by Rupert).

Rupert [Sw.]
The Swedish non-adopted boy Rupert has, as well as Guillermo, developed well-established communicative patterns together with his mother. His mother only provides a minor proportion of identification - Rupert does this work himself. Instead the proportions of the mother's providing and requesting information increase over time. Their interaction, too, can be called *independent and cooperative.* Rupert does not always want to cooperate but imposes his own conditions on the communication. His mother accepts this', however, and can therefore avoid the communication breaking down. Over the two-year-period of the study Rupert keeps a high degree of responsiveness.

Verbally, Rupert is not exceptional in any direction; i.e. he is neither particularly early nor late in his development. He scores well for his age in all tests.

6.1.1 Table 6.1

Section 6.1 can be illustrated as in table 6.1, where the childern's mastery of different communicative abilities is symbolised as follows:

MLUw, mean length of utterance as measured in words. A minus (-) indicates below age-adequate performance, as compared to the Swedish child. A plus (+) is used to represent age-adequate performance.

MLturn difference. The difference between the child's and the mother's mean length of turn as measured in utterances. A plus (+) represents equally long turns, or child dominance. A minus (-) indicates maternal dominance.

Dominating level of interaction. The number of the level of interaction used most frequently is given for each child. In cases with very small differences in use all important levels are stated (e.g. 1/2).

ML of level 1. Mean length of level 1. Level 1, which is characterised by a non-interrupted exchange of turns, is a sign of communicative attention and

participation. A high mean length (20 turns or more) is awarded a plus (+), a low receives a minus (-).

Proportions of utterances. As soon as children produce around 50% or above of all the dyad's utterances or more, a plus (+) is given. Otherwise a minus (-).

Proportions of topical string. A measure of the introduction of new topics. Children with a dominating share of new topical strings receive a plus (+).

Channels. The main channel(s) of communication are given. If more than one, the most frequent is given first.

Strategies. The main strategies are given. If more than one, the most frequent is given first.

Responsiveness. An age-adequate degree of responsiveness, as compared with the Swedish child, is awarded a plus (+); a non-age-adequate degree receives a minus (-).

Function. The main utterance function(s) are given. If more than one, the most frequent is given first.

Form. The main syntactic form(s) are given. If more than one, the most frequent is given first.

At times 1 and 2 only the above communicative abilities are treated. At time 3, however, I have also included the following verbal results:

Tests
Ege, *Lundamaterialet* and SIT. A plus (+) represents an age-adequate performance according to the standardisation key of the test. The symbol +/- may be used to indicate below age-adequate, but still not very much below.

Spontaneous speech
SV word order. A plus (+) indicates SV word order is dominating, a minus (-) that VS is dominating, and the symbol+/- indicates equal shares.

Utterance type. The most frequent types are given. If more than one, the most frequent is given first.

Variation, sentence patterns, expansions, and errors. A plus (+) indicates age-adequate performance, when compared to other studies of age-matched children.

Sentence patterns. Many (more than 5) sentence patterns in common with age-matched groups and within the own group is symbolised by a plus (+), less than 5 in common results in a minus (-).

Table 6.1 Interactive profiles.

Time 1 - 0 months after adoption (Sergio 1 month; Julio 2 months after) or at corresp. age

Age:	Juan 1:10	Paolo 1:10	Serg. 1:11	Julio 4:5	Guill. 1:10	Rupert 1:1
MLUw	-	-	-	-	+	+
MLtum difference	-	-	-	-	+	+
Dom. level of interaction	2	2	2	2	1	1/2
ML of level 1	-	-	-	-	+	-
Proportions utterance	-	-	-	-	+	+
Proportions topical strings	+	+	+/-	+/-	+	-I-
Channels	so	ve vo	so vo	vc	ve	ve
Strategies	S	C	S, C	C	C	C
Responsiveness	-	-	-	+	+	-I-
Function	pr inf	pr inf	pr inf	pr inf	pr inf	I"
Form	x	1-w	1-w	1-w	1-w	1-\

Time 2 - 1 2 months after adoption, or at corresp. age

Age:	Juan 2:10	Paolo 2:10	Serg. 2:10	Julio 5:3	Rupert 2:11
MLUw	-	-	-	-	+
MLturn difference	-	-	-	-	+
Dom. level of interaction	1/2	1	1/2	1	1
ML of level 1	-	-	-	-	-
Proportions utterance	-	+	-	+	+
Proportions topical strings	+	+	-	-	+
Channels	ve	ve	ve, vc	ve	ve
Strategies	C	C	C	C, L	C
Responsiveness	+	+	+	+	+
Function	pr inf pr id	pr inf pr id re id	pr inf	pr inf	pr inf
Form	1-w	1-w	1-w	imp	decl

Time 3-24 months after adoption, or at conresp. age (for Sergio 23 months after adoption)

	Age:	3:10	3:10	3:9	6:3	4:0	3:11
MLUw		+	+	-	-	+	+
MLturn difference		+	+	+	+	+	+
Dom. level of interaction		1	1	1	1	1	1
ML of level 1		+	+	+	+	+	-
Proportions utterance		+	+	+	+	+	-
Proportions topical strings		+	+	-	+	+	-
Channels		ve	ve	ve	ve	ve	ve
Strategies		C	C	C	C	C	C
Responsiveness		+	+	+	+	+	+
Function		pr inf	pr inf	pr inf pr con pr id	pr inf pr id re id	pr inf	pr inf re inf
Form		decl 1-w	decl 1-w	1-w decl	1-w decl	decl 1-w	decl 1-w
Test:	Ege	+	+	-	-	+	+/-
	Nya Lundamaterialet	+/-	-	-	-	+	+
	SIT	+	+	-	+	+	+
Spont.:	SV w/o	+/-	+/-	+/-	+	+/-	+
	Utterance type	SM	SM IS	SM IS	SM	SM	EL SM
	Variation	+	-	-	+	-	+
	Sentence patterns	+	+	+	-	+	+
	Expansions	-	-	-	-	+	-
	Errors	+	+	+	-	+	+

Expansions. An age-adequate degree of expansions results in a plus (+); if not, a minus (-).

Errors. Very few errors (less than 10%) gives a plus (+); more errors a minus (-).

6.2 Conclusions

Is it possible to draw any conclusions from the results of a study with only 6 children? Can we make any valid generalisations? To a certain degree I think we can, especially if we focus on the aspects of communication in which the children's performances show similarities. Furthermore, I think it is possible to identify at least some of the background factors which may be potential risk factors with respect to a delayed or divergent development.

The following conclusions concerning the communicative and linguistic development of the IA children in this study can be made from the results presented in Chapters 4 and 5.

6.2.1 Communicative development

The communicative development of internationally adopted children appears to be affected very little by the adoption process, except for a period of 6-12 months immediately following the adoption.

The most important findings concerning the different dyads' communicative behaviour are the following:

1. Extremely different communicative styles immediately after the adoption when choosing the major channel of communication. This behaviour is, at least to some degree, probably the result of the child's reaction after having discovered that his original language is now useless. It may also be the case that the children are bringing with them their original communicative style that they have been using in Columbia.

2. Better responsiveness from the child in the Swedish dyad, as well as in the adoptive dyads where the boys arrived late (at 4:3) or early (at 0:8), than in the dyads with children arriving at 1:10.

3. More interactive strategies used by the mothers in dyads with children adopted at 1:10 than in the other dyads. Language learning and teaching strategies were used considerably more in adoptive dyads, except in the dyad with the early adopted boy (at 0:8).

4. How mothers and children interact, i.e. which utterance functions are used, is to a large degree ruled by the partner's behaviour. The silent child receives more requests for action, a behaviour which disappears when he starts talking. Children who are difficult to understand receive requests for confirmation, and children who have learned to talk receive providings and requests for information. Mothers provide identification of objects until the children start doing this themselves; then they continue requesting identification. Also, the Swedish mother and the mother of the early adopted child are less involved in the

providing or requesting of identification (cf. the use of language teaching strategies in 3. above).

After two years' stay in Sweden there are no longer any particular differences between the dyads.

We can conclude that the main factor governing differences in communicative development is the *need for adjustment* and *age on arrival.* Once the children get adjusted to and acquainted with the new environment, and particularly the new interactive partners, the differences in behaviour disappear, or at least decrease.

6.2.2 Linguistic development

We have noticed in Chapter 5 that all IA children in the study do quite well. The only exception is the boy adopted at 4:3, who is still having problems after two years in Sweden.

Furthermore, we noticed that there are some small differences within the group of IA children. In short, the earlier the adoption, the faster and better the language acquisition. The following are the findings regarding linguistic development:

1. All 4-year-old children perform well om tests, whether or not adopted. The Swedish non-adopted boy and the boy adopted already at 8 months perform better than the boys who arrived at the age of 1:10. The older boy, adopted at 4:3, does not perform age-adequately in grammar. His language comprehension is however still quite age-adequate.

2. All 4-year old children behave like Swedish-born non-adopted children with regard to word order. The older boy does, however, adhere to some degree to patterns which are common among second-language learners of Swedish and among language-disordered children.

3. A grammatical analysis of the children's spontaneous speech reveals that the IA children's performance is slightly below that of Swedish-born non-adopted children. They make fewer expansions in their syntactic sentences and show a less varied use of sentence patterns than Swedish children. The differences are however very small, and are probably only a matter of development. The most important finding of the grammatical analysis is that the older child, adopted at 4:3, develops much slower than the other children. At the time of the analysis - age 6:3 - his performance is far from age-adequate.

The factors ruling the children's linguistic development are, according to my findings, *age on arrival* and *language status on arrival.* It is difficult to say anything about the role of maternal input, since the children get input from so many different sources. It may also be that *early traumatic experience* in the children's original country should be regarded as a potential factor governing

linguistic development. Sergio, who was adopted at 1:10, has an age-adequate development, but still scores below Juan and Paolo, who were adopted at the same age. This may well only be a matter of individual development. He will possibly catch up later on. He did, however, experience maltreatment during his first six months, and was taken from his biological mother.

It must again be emphasised, however, that the differences noted among the four-year-old children are small, and that all children have a well-functioning language.

6.3 Implications for international adoptions

The findings of this study show what studies in other disciplines have already shown: In the majority of cases both the communicative and the linguistic development of the IA children is, at least after an initial period of 6-12 months, on the same level as that of non-adopted monolingual Swedish children. In very few cases are there serious problems such as delays or deviant developmental patterns.

As far as the communicative and linguistic development is concerned, I see no reason to consider avoiding or hestitating to adopt a foreign child. We must however bear in mind the potential 'risk' factors; namely, the need for adjustment (time spent in Sweden), age on arrival, and language status on arrival.

Adoptive parents receiving a child of 3 years or more, and particularly so if the child is reported from its home country to have a poor language, should not hesitate to contact a speech therapist even if it is only for a discussion. These children are often in need of special training, and their parents need information and advice as well as confirmation of their worries.

In some cases we may also have to be prepared to accept a lower linguistic level than we had originally expected. A late language switch combined with a poor command of the original language can definitely be a handicap, and as other handicaps it may and must be trained.

6.3.1 What can we do for IA families?

With the findings of this and previous studies of IA children's development, what can be done in order to mitigate the effects of the risk factors and to stimulate the children's development?

Some efforts are already being made. Parents awaiting adoption often take part in evening classes in order to prepare for taking care of their child. The classes are led by representatives of the different adoption agencies, who are usually

adoptive parents themselves. Very seldom do finances allow for professionals lecturing in the classes. The representatives are however regularly (once or twice a year) offered further training courses where researchers within different disciplines are invited to lecture. In Holland, which besides Sweden, Denmark, and Norway is one of the most important countries for adoptions, this preparation of parents is obligatory by law since 1989. It is however difficult to prepare in advance for something you have never before encountered. It would perhaps be even more useful to arrange for parents to meet *after* the child has arrived, in order to have a more realistic situation with own experiences to rest on.

Many parents, not only adoptive parents, may feel a reluctance to contacting psychiatric expertise although they feel the need of it. It might be that adoptive parents are even more reluctant to do this, since they may feel they have failed if there is something 'wrong' with their children. In order to tone down this resistance and to create a first contact, all adoptive parents in Lund are offered a visit to a child psychiatrist soon after the child has arrived. After this meeting the parents know where to go if they feel it is necessary. A similar contact made with professionals on communication and language is advisable, in order to allow for children in need to start therapy as soon as possible.

6.4 Implications for further research

International adoption does not in itself involve a risk to developing linguistic or communicative deficiencies. It is not the new environment, including parents and language, which is the root of possible problems. Adoption age and command of original language have been found to constitute important risk factors to be considered when we meet IA children with apparent language problems. But how important a factor is actually the traumatic experience of having lost the biological mother, or of being passed around between different foster homes, orphanages, hospitals, etc.? To what degree (if any) is emotional experience actually connected to verbal language development?

This study cannot provide an answer to this question, since we do not know enough about the children's backgrounds, and we very seldom do know enough about our IA children's pasts. A way around this may be to study other groups who have undergone similar traumatic change in their early lives. A possible group for study would be Swedish children who have, due to their mothers' death, illness - or even worse - sheer neglect or abuse, lost or been deprived of a continuous contact during their first year. Similar projects have been undertaken in order to establish the effects of such a loss on the children's emotional and mental development (e.g. Fox et al. 1988, Culp et al. 1991, Albertsson forthc). These children's background is sometimes very similar to that of the IA children's, with the exception that we normally have a better documented history of the Swedish children.

Another interesting aspect to be investigated is the role of the adoptive fathers. The reason why I have studied the children together with their mothers, apart from this being the traditional procedure and therefore offering more opportunities for comparisons, was mainly a practical one. Mothers do take the major part of the parental leave, even in Sweden. At least that was what I thought. It appeared, however, that in three of the families of my study the fathers stayed at home for considerable periods of time, varying from three months to one year. Whether or not this was because adoptive fathers are more dedicated to their role as a father, or because it is practically easier to take care of a two- or three-year-old child than a biological infant, the fact remains that adoptive fathers do play an important role from very early on in their children's lives. It is therefore interesting to study them in interaction with their children.

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Appendix

Table la Channels of communication, Juan [1:10]
Percentage of own total contribution

		Months after adoption 0	0,5	1	3	6	12	18	24
Channel									
Ve	**c**	0	12	6	22	24	18	18	24
	M	57	73	72	63	63	67	63	57
VeSo	**c**	0	6	3	13	30	27	46	45
	M	27	11	16	19	24	20	24	25
So	**c**	94	48	66	21	9	32	16	8
	M	2	1	1	1	1	1	1	0
VoSo	**c**	3	14	11	19	20	14	12	8
	M	0	1	0	2	1	2	1	3
Vo	**c**	3	20	16	25	17	9	8	15
	M	14	14	11	15	11	10	11	15

Table lb Channels of communication, Paolo [1:10]
Percentage of own total contribution

		Months after adoption 0	0,5	1	3	6	12	18	24
Channel									
Ve	C	21	18	10	21	19	10	14	12
	M	64	56	50	65	64	46	54	58
VeSo	c	17	26	17	13	40	52	37	59
	M	20	18	25	14	16	34	30	22
So	**c**	24	15	33	52	22	8	16	10
	M	0	2	3		2	0	0	0
VoSo	**c**	22	18	22	8	13	23	22	11
		3	4	2	2	1	9	1	1
Vo	**c**	16	23	18	6	6	7	11	8
	M	13	20	20	18	17	11	15	19

Table lc Channels of communication, Sergio [1:10]
Percentage of own total contribution

		Months after adoption 1	3	6	12	23
Channels						
Ve	C	1	2	8	14	9
	M	49	29	53	45	62
VeSo	**c**	3	6	36	49	55
	M	35	56	39	49	31
So	**c**	64	63	19	26	10
	M	1	4	3	1	1
VoSo	**c**	27	26	32	10	19
	M	8	4	0	1	0
Vo	**c**	5	3	5	1	7
	M	7	7	5	4	6

Table Id Channels of communication, Julio [4:03]
Percentage of own total contribution

		Months after adoption				
		2	3	6	12	24
Channels						
Ve	c	7	10	11	1 1	21
	M	51	51	61	54	65
VeSo	c	37	31	57	42	52
	M	35	36	21	36	25
So	c	26	25	7	19	11
	M	4	2	2	3	2
VoSo	c	24	28	20	20	10
	M	3	3	1	1	2
Vo	c	6	6	5	8	6
	M	7	S	15	6	6

Table Ie Channels of communication, Guillermo [0:8]
Percentage of own total utterances

		Age	
		1:10	4:0
Channel			
Ve	c	18	25
	M	59	51
VeSo	c	51	56
	M	28	34
So	c	8	8
	M	0	2
VoSo	c	11	8
	M	3	1
Vo	c	12	3
	M	9	12

Table If Channels of communication, Rupert [Sw.]
Percentage of own total contribution

		Age			
		1:11	2:5	2:11	3:11
Channel					
Ve	C	24	20	13	19
	M	68	63	57	40
VeSo	c	30	34	42	26
	M	14	27	32	50
So	c:	26	20	17	39
	M	2	2	3	6
VoSo	c	9	15	23	11
	M	0	1	3	1
Vo	c	11	11	5	5
	M	16	7	5	3

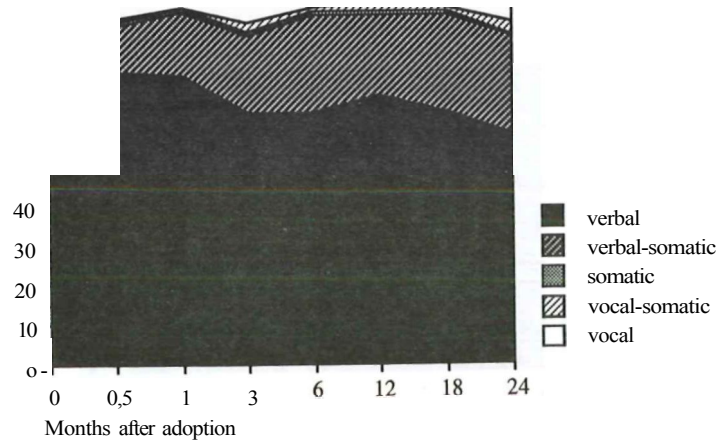

Figure la Juan's mother, channels of communication, % of own utterances

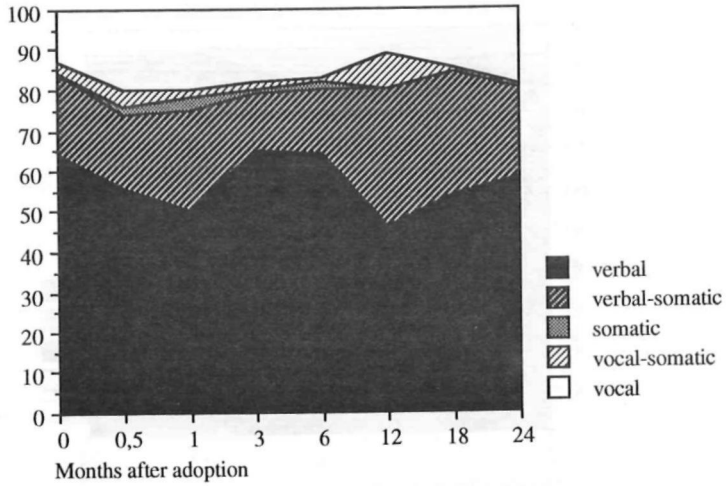

Figure 1b Paolo's mother, channels of communication, % of own utterances

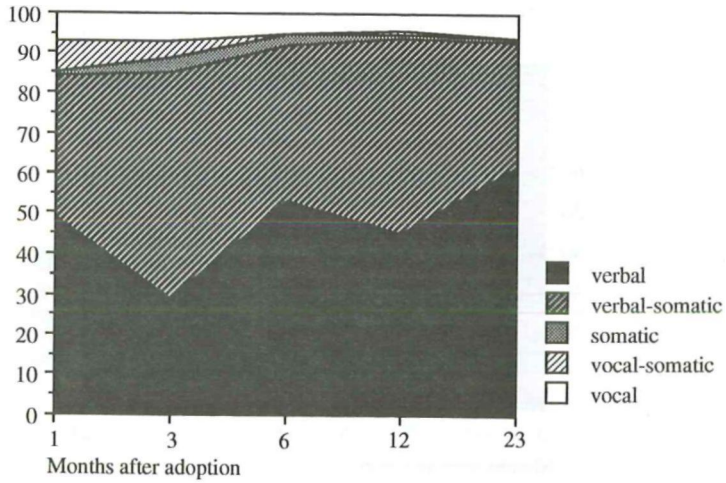

Figure 1c Sergio's mother, channels of communication, % of own utterances

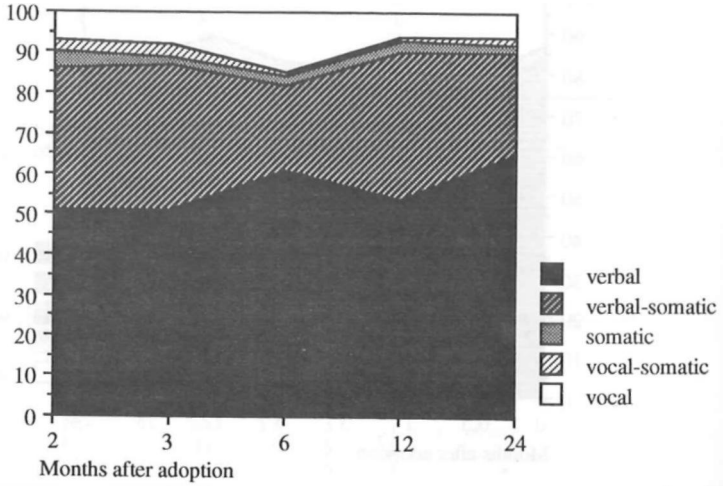

Figure 1d Julio's mother, channels of communication, % of own utterances

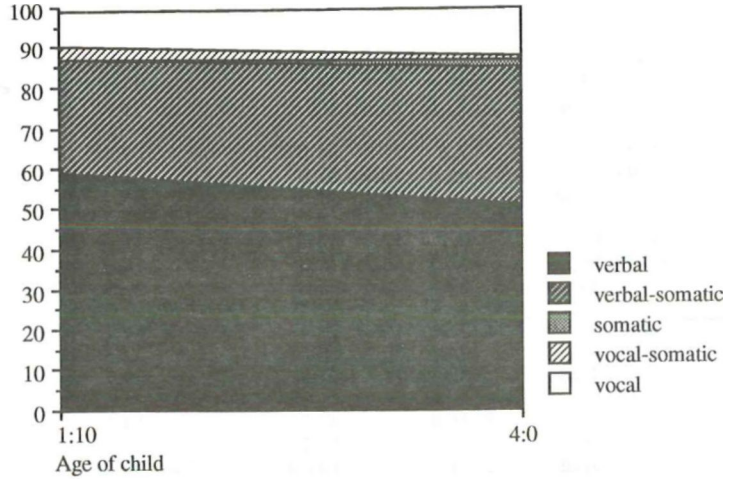

Figure 1e Guillermo's mother, channels of communication, % of own utterances

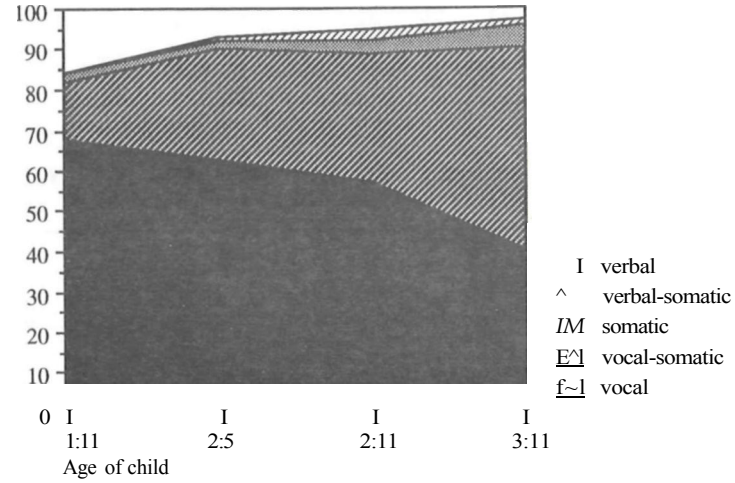

Figure If Rupert's mother, channels of communication, % of own utterances

Table 2 Words and utterances per minute

		Words per minute Months after adoption 0	12	24	Utterances per minute Months after adoption 0	12	24
Juan	C	-	7.6	29.0	8.1	15.1	16.5
[1:10]	M	32.6	89.3	78.0	11.3	18.5	17.7
	dyad	32.6	96.9	107.8	19.4	33.6	34.3
Paolo	C	3.3	23.6	34.0	13.4	14.2	15.2
[1:10]	M	68.3	50.5	57.0	22.3	15.8	14.8
	dyad	71.7	74.1	91.5	35.7	30.1	30.3
Serg.	C	0.7	12.2	23.0	11.0	10.6	14.7
[1:10]	M	52.2	66.3	70.0	19.2	14.6	15.5
	dyad	52.8	78.5	93.0	30.3	25.2	30.2
Julio	C	7.9	10.4	23.4	17.2	13.4	17.4
[4:3]	M	74.5	60.7	68.0	22.5	14.9	17.5
	dyad	82.8	71.1	91.2	39.7	28.3	35.0
Guill.	C	16.6		47.7	14.5		17.9
[0:8]	M	62.0	-	54.2	15.9	-	16.2
	dyad	78.7	-	101.9	30.4	-	34.1
Rupert	C	11.0	21.4	10.9	16.5	10.5	8.5
[Sw.]	M	58.0	40.0	57.5	16.3	9.7	13.9
	dyad	69.0	61.5	67.0	32.7	20.2	22.4

Table 3a Strategies, % of all utterances containing a strategy, Juan, [1:10]

Months after adoption:	0	1	3	6	12	24	0	1	3	6	12	24
Age:	1:10	1:11	2:1	2:4	2:10	3:10						
	Child						Mother					
Lang. Learmng/Teaching Strategies												
	0	*13*	*10*	*0*	*0*	*12*	*16*	*31*	*57*	*45*	56	*28*
Imitation		10	10									
Manipulation		3										
Naming							14	11	14	26	11	14
Correction								2	3	5	3	
Check						12	5	16	7	11	36	10
Instruction								2	7	3	6	4
Communicative Strategies												
	29	*50*	*58*	*82*	*78*	*69*	57	*58*	*52*	*55*		*58*
Repetition			10			3	13	21			4	
R + nonverb.												
Change chann.							1					
Addition nonv.		20	38	82	78	58	19	17		33	21	36
Paraphrase							10	8				
P + nonverb.												
Eye-to-eye	22	23	22			3		2				
Pretend		7										
Clar. req.					6						2	
Interpretation	7		10				14	10		22	4	12
Imitation											11	8
Social Strategies												
	71	*37*	*32*	*18*	22	*18*	27	77	*17*	*0*	/1	/V
Voice	7					3	9				4	6
Smile/face	64	37	32	18		15	1	11	16			1
Voice/face				22			17		1		6	8
Touch/appr.												
Verbal												
Total	100	100	100	100	100	100	100	100	100	100	100	10C
N	14	30	38	11	14	33	43	! 14	80	61	72	49

Table 3b Strategies, % of all utterances containing a strategy, Paolo, [1:10]

Months after adoption:	0	1	3	6	12	24	0	1	3	6	12	24
Age:	1:10	1:11	2:1	2:4	2:10	3:10						
	Child						Mother					
Lang. Leaniing/Teaching Strategies	*4*	*17*	*4*	*11*	*36*	*13*	*17*	*32*	*16*	22	*42*	*24*
Imitation	4	17	4	11								
Manipulation												
Naming							13	14	10	11	8	*6*
Correction								1				
Check					36	13	4	4	6	11	34	16
Instruction								2				2
Communicative Strategies	*96*	52	*83*	*89*	*64*	*81*	*53*	6/	*49*	*66*	*58*	*49*
Repetition	12						8	20	21	*9*	8	
R + nonverb.	8				9	6	2				8	
Change chann.												
Addition nonv.	64	32	79	74	47	66	12	27	7	19	16	31
Paraphrase					2		4	3	3	3		3
P + nonverb.	12				4		1	1		2	2	
Eye-to-eye		3										
Pretend												
Clar. req.						9	13	2	3	2	2	
Interpretation				4			13	8	13	32	22	15
Imitation		17	4	1 1					2			
Social Strategies	*0*	*31*	*13*	*0*	*0*	*6*	*30*	*18*	J5	*11*	0	27
Voice							2	3	4			
Smile/face		14	13				1	11	23			
Voice/face		17				6	26	4		9		27
Touch/approach							1		8	2		
Verbal												
Total	100	100	100	100	100	100	100	10(1	100	100	100	100
N	32	29	24	27	47	47	142	101	89	64	50	62

Table 3c Strategies, % of all utterances containing a strategy, Sergio, [1:10]

Months after adoption:	I	3	6	12	23	1	3	6	12	23
Age:	1:11	2:1	2:4	2:10	3:9					
	Child					Mother				
Lang. Learning/Teaching Strategies	*0*	*0*	*0*	*0*	*3*	*12*	*24*	***15***	***21***	***15***
Imitation										
Manipulation										
Naming						5	14	12	2	1
Correction							2		1	
Check					3	7	5		13	14
Instruction							3	3	5	
Communicative Strategies	*40*	***80***	*87*	*90*	72	*72*	***64***	*70*	*73*	*64*
Repetition					3	19	4	6	13	5
R + nonverb.										
Change chann.										
Addition nonv.	20	67	78	90	69	33	40	46	45	45
Paraphrase						6	2			5
P + nonverb.							2			
Eye-to-eye	20	13	9				5		1	
Pretend										
Clar. req.						3		1	3	1
Interpretation						11	11	17	11	8
Imitation										
Social Strategies	***60***	***20***	*13*	*10*	25	*16*	*12*	*15*	*6*	*21*
Voice							4		0	3
Smile/face	60	20	13	7	25	3	4	4	0	5
Voice/face						3	2		5	5
Touch/approach				3		10	2	11	1	8
Verbal										
Total	100	100	100	100	100	100	100	100	100	100
N	5	15	45	30	32	126	129	69	88	65

Table3d Strategies, % of all utterances containing a strategy, Julio, [4:3]

Months after adoption:	2	6	12	24	2	6	12	24
Age:	4:5	4:9	5:3	6:3				
	Child				Mother			
Language Learning/Teaching Strategies								
	17	*29*	*22*	*14*				
Imitation	2	6	19	12				
Manipulation								3
Naming					11	10	4	c
Correction					1			
Check	15	23	3	2	24	18		4
Instruction					3	5		
Communicative Strategies								
	83	*65*	72	77	*60*	*42*		
Repetition					9	7	4	
R+ nonverb.								
Change chann.								
Addition of nonv.	71	59	38	32	38	25		
Paraphrase					4			
+ nonverb.								
Eye-to-eye	10		9	25		1		7
Pretend								
Clar. req.								
Interpretation			19	2	8			
Imitation	2	6	9	18				4
Social Strategies	*0*	5	*6*	9		5		
Voice								
Smile/face		1	3	9				1
Voice/face			3		1			1
Touch/approach						22	4	3
veroai								
Total	100	100	100	100	100	100		
N	44	53	27	56	90	93	102	74

Table 3e Strategies, % of all utterances containing a strategy, Guillermo, [0:8]

Age:	1:11	4:0	1:11	4:0
	Child		Mother	
Language Learning/Teaching Strategies				
	0	*11*	*28*	*18*
Imitation				
Manipulation				
Naming			2	
Correction			1	
Check		11	21	16
Instruction			4	2
Communicative Strategies				
	100	*86*	*50*	*56*
Repetition		2	2	
Repeat + nonverb.	5	8		
Change of channel	2			
Addition of nonverb.	74	62	17	29
Paraphrase	2		8	3
Paraph. + nonverb.	17			
Eye-to-eye				
Pretend				
Clarific. request		11		3
Interpretation			23	21
Imitation				
Social Strategies				
	0	*3*	22	*26*
Voice			3	10
Smile/face				
Voice/face		3	19	16
Touch/approach				
Verbal				
Total	100	100	100	100
N	42	38	90	62

Table 3f Strategies, % of all utterances containing a strategy, Rupert, [SwJ

Age:	1:11	2:5	2:11	3:11	1:11	2:5	2:11	3:11
	Child				Mother			
Language Learning/Teaching Strategies								
	0				*14*	*21*		*20*
imitation								
Manipulation								
Naming								
Correction								
Check					10	17		
Instruction						2		11
Communicative Strategies								
	100	*80*	*90*	*94*	*54*	***63***	*76*	***65***
Repetition	3	3	5	12		2	1	1
Repeat + nonverb.		8	5					
Change of channel	16	3						
Addition of nonverb.	68	63	54	76	15	34	32	**48**
Paraphrase	3		3		15	10	17	**4**
Paraph. + nonverb.	7		8					1
Eye-to-eye		3	3					
Pretend								
Clarifie, request			11	6	3	2	15	
Interpretation					21	15	10	11
imitation		3						
Social Strategies								
	0	*17*	5	*6*	*33*	*16*	22	*15*
Voice					1	2	10	
Smile/face						**5**		
Voice/face		17	5	6	31	2	12	4
Touch/approach						7		11
Verbal								
Total	100	100	100	100	100	100	100	100
N	33	34	37	17	73	41	41	71

Table 4 Sequential responsiveness

Juan, 0 months after adoption (age 1:10)

		Child's responses							
		1+	I-	R/I+	R/I-	=I			
Mother's initiatives	N								
1+	1	-	-	-	-	-			
I-	0	-	-	-	-	-			
R/I+	31	-	1	2	7	3	12	4	2
R/I-	31	-	4	-	7	2	17	1	
=1+		-	-	1	1	-			
=1-		-	-	-	2	-			
(R/B	14	-	3	-	1	-			

		Mother's responses					
		1+	I-	R/I+	R/I-	=1+	=
Child's initiatives	N						
1+	2	-	-	1	-	-	
I-	11	-	-	5	5		1
R/I+	2	-	-	1	1	-	
R/I-	16	-	-	3	9	-	
=1+	4	-	-	1	1	-	
=1-	40	-	-	14	16		1
(R/B	5	-	-	4	-	-	

Juan, 6 months after adoption (age 2:4)

		Child's responses							
		1+	I -	R/I+	R/I-	=1+	=1-	R	No
Mother's initiatives	N								
1+	3		-		1	-	-	2	-
I -	10	1	1		5	1	-	1	1
R/I+	45		3		15	-	9	15	2
R/I-	43	1	2		13	-	17	10	-
=1+	8		2		3	-	-	3	-
=1-	25	-	7		9	-	4	5	-
(R/B	36	1	14		1	1	1	19	-)

		Mother's responses							
		1+	I -	R/I+	R/I-	=1+	=1-	R	No
Child's initiatives	N								
1+	3	-		1	2	-	-	1	
I-	30	1	3	11	9	2	2	2	
R/I+	0			-	-	-	-	-	
№-	47		2	15	18	2	5	5	
=1+	0	-		-	-	-	-	-	
=1-	50	1	3	12	9	2	9	14	
?	3			-	1	1	1	-	
(R/B	39	1	1	4	7	2	9	15	-)

Juan, 12 months after adoption (age 2:10)

		Child's responses							
		1+	I-	R/I+	R/I-	=1+	=1-	R	No
Mother's initiatives	N								
1+	5	-	-	-	2	-	-	3	-
I-	4	-	1	-	1		-	2	-
R/I+	60	2	3	2	19	-	13	19	2
R/I-	43	1	7	-	14	1	14	6	
=1+	8	*	-	-	5	-	-	3	
=1-	11	1	1	-	2		4	3	
?	1	-	-	-	-		-	1	-
(R/B	23	1	6	-	3	-	13	2	1)

		Mother's responses							
		1+	I-	R/I+	R/I-	=1+	=1-	R	No
Child's initiatives	N								
1+	4	-	-	1	3	-		1	-
I-	19	2	-	10	3	1	-	3	
R/I+	2	-	-	1	1	-	-		
R/I-	44	-		17	19	-		6	
=1+	1	-	-	-	-	-		1	
=1-	44	3	1	23	8	3	5	1	
?		-	-	1	-	1	1	1	
(R/B	40	1	1	7	11	4	6	11	1)

Juan, 24 months after adoption (age 3:10)

		Child's responses							
		1+	I-	R/I+	R/I-	I •	=1-	R	No
Mother's initiatives	N								
1+	7	-	-	1	2		-	3	1
I-	4	-	1	-	2		-	1	
R/I+	47	-	-	4	17	1	8	16	1
R/I-	46		6	3	11		13	11	1
=1+	8		1	-	4		1		
=1-	7	-	4	1	1	-		1	
(R/B	39	-	3	-	3	1	31	-	1)

		Mother's responses							
		1+	I-	R/I+	R/I-	=1+	=1-	R	No
Child's initiatives	N								
1+	1	-	-	-	1	-	-	-	
I-	17	1	-	8	5	1	-	2	
R/I+	7	-	-	3	2	1	-	1	
R/I-	43	2	1	14	13	-	2	11	
=1+	3	-	-	1	2	-			
=1-	54	2	-	15	19	1	-	17	
7	4	-	2	·		-	2		
(R/B	31	1	1	5		5	5	8	-)

Paolo, 0 months after adoption (age 1:10)

		Child's responses							
		uuu 1+	I-	R/I+	R/I-	=1+	=1-	R	No
Mother's initiatives	N								
1+	2	-	-	-	1	-	1	-	-
I-	1	-	1	-	·	-	-	-	-
R/I+	57	1	15	1	16	4	16	3	1
R/I-	47	2	14	-	4	3	19	1	4
=1+	8	-	1	-	3	-	5	-	-
=1-	1	-	1		-	-	-	-	-
(R/B	22	1	4	-	2	1	16	2	3)

		Mother's responses							
		1+	I-	R/I+	R/I-	=1+	=1-	R	No
Child's initiatives	N								
1+	4	-	-	3	1	-	-	-	-
I-	34	-	1	16	10	2	-	5	-
R/I+	1	-	-	·	1	-	-	-	-
R/I-	26	-	-	13	5	-	-	8	-
=1+	7	-	-	2	3	-	-	2	-
=1-	54	1	-	19	22	4	1	7	-
n	7		-	-	1	2	-	4	-
(R/B	7	-	-	3	2	2	-	*	-)

Paolo, 6 months after adoption (age 2:4)

		Child's responses							
		1+	I -	R/I+	R/I-	=1+	=1-	R	No
Mother's initiatives	N								
1+	2	1			1	-	-	-	-
I-	0	-			-	-	-	-	-
R/I+	51		13		6	4	20	7	i
R/I-	39		14		3	1	20	-	I
=1+	9		4		-	-	2	3	-
=1-	5		2		1	-	1	1	-
(R/B	27	1	7		1	-	16	-	1)

		Mother's responses							
		1+	I -	R/I+	R/I-	=1+	=1-	R	No
Child's initiatives	N								
1+	3	-		3	-	-	-		-
I-	40	-		18	11	-	1	10	-
R/I+	0	-		-	-	-	-		-
R/I-	11	-		4	5	-	1	1	-
=1+	6	-		4	-	-	1	1	-
=T-	60	1		21	23	3		12	-
(R/B	10	-		1	1	4	3	1	-)

Paolo, 12 months after adoption (age 2:10)

		Child's responses							
		1+	I -	R/I+	R/I-	=1+	=1-	R	No
Mother's initiatives	N								
1+	0	-	-	-	-	-			
I -	2	-	-	-	1	-		1	
R/I+	46	1	-	3	18	3	9	12	
R/I-	38	1	-	3	9	7	18	1	
=1+	8	-	-	-	5	-	1	2	
=1-	10	-	1	-	2		3	4	
(R/B	24	1			3	6	12	2	

		Mother's responses							
		1+	I-	R/I+	R/I-	=1+	=1-	R	No
Child's initiatives	N								
1+	3	-	-	2	1	-			
I-	2		-	1	1				
R/I+	6	-		5	1	-			
R/I-	41	-	1	12	15	1	2	10	
=1+	12	-	-	9	3	-			
=1-	42	-	1	14	14	2	3	8	
(R/B	20	-	-	3	2	5	5	5	-)

Paolo, 24 months after adoption (age 3.T0)

		Child's responses							
		1+	I -	R/I+	R/I-	=1+	=1-	R	No
Mother's initiatives	N								
1+	5	1		2	1	-			
I-	2	-	-	1	-				
R/I+	31	-		5	12	1	7		
R/I-	43	6	8	3	4	-	11		
=1+	4	-	-	1	2				
=1-	14	3	4		1	-	1		
(R/B	46	3	4	1	2	5	29		

		Mother's responses							
		1+	I-	R/I+	R/I-	=1+	=1-	R	No
Child's initiatives	N								
1+	12	-	-	4	1	-	2	5	-
I-	16	1		4	4	-	1	6	
R/I+	13	-	-	6	7	-			
R/I-	22	1	-	4	10	-	-	6	
=1+	5	-		3	1	-		1	-
=1-	49	3	2	8	16	2	-	18	
?		-		-	1	-			
(R/B	27	-	-	-	4	3	10	10	-)

Sergio 1 month after adoption (age 1:11)

		1+	I-	R/I+	R/I-	=1+	=1-	R	No
Mother's initiatives	N								
1+	9	-	1	-	-	1	5	1	1
I-	1		-	1	-	-	-	-	-
R/I+	43	2	9	-	2	2	23	5	-
R/I-	33	2	5	2	1	2	18	1	2
=1+	15	-	1	-	-	1	12	1	-
=1-	6		2	-	-	-	4	-	-
(R/B	27	2	10	-	1	1	12	-	1)

		Mother's responses							
		1+	I-	R/I+	R/I-	=1+	=1-	R	No
ChUd's initiatives	N								
1+	6	1	-	1	4	-	-	-	-
I-	29	4	-	14	6	4	-	1	-
R/I+	4	-	-	-	3	-	-	1	-
R/I-	3	-	-	-	2	-	-	1	-
=1+	8		-	-	2	1	-	5	-
=1-	69	4	1	26	15	4	3	15	1
?	4	-			-	1	1	2	-
(R/B	8	-	-	2	1	1	1	3	-)

Sergio, 6 months after adoption (age 2:4)

		Child's responses							
		1+	I -	R/I+	R/I-	=1+	=1-	R	No
Mother's initiatives	N								
1+	10	-	2		2		4	2	-
I-	6	2	-		2	1	-	-	1
R/I+	37	2	11		4	4	9	5	1
R/I-	32	1	9		6	1	1 1	3	1
=1+	18	1	8		1	-	6	1	1
=1-	12	-	4		4	-	2	2	-
(R/B	13	2	4		-	-	5	2	-)

		Mother's responses							
		1+	I-	R/I+	R/I-	=1+	=1-	R	No
Child's initiatives	N								
1+	10		-	4	2	-	-	2	
I-	39	6	2	14	9	2	2	4	
R/I+	1	-	-	-	1	-	-	-	
R/I-	18	1	-	4	6	3	1	3	
=1+	6	-	-	5	1	-	-	-	
=1-	37	2	3	9	11	7	2	2	1
?	4	1		-	·	1	2	-	
(R/B	15	-	-	1	2	5	5	2	-)

Sergio, 12 months after adoption (age 2:10)

Child's responses

Mother's initiatives	N	1+	I-	R/I+	R/I-	=1+	=1-	R	No
1+	11	1	**1**	–	7		I	1	-
I-	4		**1**		3				
R/I+	47	1	6	1	19		10	10	
R/I-	17		5				2	2	
=1+	16		2	1			4	2	
=1-	2						1	1	
(R/B	11		1				7	1	-)

Mother's responses

Child's initiatives	N	1+	I	R/I+	R/I-	=1+	=1-	R	No
1+	1		–	1	–				
I-	17	-		11	2	3			
R/I+	2	–	–		2				
R/I-	45	3	1	29	8	1	1		
=1+	0	–	–						
=1-	25	5	1	6	3	6			
(R/B	17	3	1	-	3	6	1	**3**	-)

Sergio, 23 months after adoption (age 3:9)

Child's responses

Mother's initiatives	N	1+	I -	R/I+	R/I-	=1+	=1-	R	No
1+	1 1	1	-	-	2	-	4	4	-
I -	6	-	2	-	2	-	2	-	-
R/I+	45	1	4	-	21	-	9	10	-
R/I-	24	1	7		6		4	6	
=1+	16	1	2	-	7	-	2	4	
7j"	9	-	3	1	2	-	2	1	
(R/B	17	**2**	**6**				**7**		

Mother's responses

Child's initiatives	N	1+	I-	R/I+	R/I-	=1+	=1-	R	No
1+	6	-	1	2	2	1			
I-	25	3	1	12	5	1	1	2	
R/I+	1		–	.	1				
R/I-	40	3	1	12	10			9	
=1+	0	-	–	–					
=1-	30	2	1	13	5	3	2	3	
(R/B	26	3	2	1	1	10	6	3	-)

Julio, 2 months after adoption (age 4:5)

Child's responses

Mother's initiatives	N	1+	I-	R/I+	R/I-	=1+	=1-	R	No
1+	3	–		.	3	-	-	-	-
I-	6	–	2	1	3	-	-	-	-
R/I+	44	–	-	2	19	4	13	6	-
R/I-	70	3	3	3	27	7	17	9	1
=1+	18	1	1	-	6	-	4	6	-
=1-	7		–	1	2	1	3	-	-
(R/B	18	.	1	1	.	6	7	2	1)

Mother's responses

Child's initiatives	N	1+	I-	R/I+	R/I-	=1+	=1-	K	No
1+	4	–	–	3	1	-	-	-	-
I-	7	–	-	2	3	-	1	1	-
R/I+	4			2	1	-	-	1	-
R/I-	60	1		20	25	1	1	12	-
=1+	23	–	–	6	13	-	-	4	-
=1-	46	2	3	10	18	7	2	4	-
7	2	1	–	-	-	1	-	-	-
(R/B	22	.	1	2	7	1	9	2	-)

Julio, 6 months after adoption (age 4:9)

Child's responses

Mother's initiatives	N	1+	I-	R/I+	R/I-	=1+	=1-	R	No
1+	8	–	–	-	3	-	1	4	-
I-	4	–		1	3	-	-	-	-
R/I+	34	–	1	2	15	-	8	8	-
R/I-	30	2	5	-	5	3	10	5	-
=1+	18	–	2	2	8	-	3	1	2
=1-	8	1	1		3	-	-	-	-
?	2		–		-	-	2	-	-
(R/B	33	4	17	.	.	1	9	2	-)

Mother's responses

Child's initiatives	N	1+	I-	R/I+	R/I-	=1+	=1-	R	No
1+	7	–	–	3	3	-	-	1	-
I-	27	2	1	12	5	1	-	5	1
R/I+	5	–	–	-	4	-	1	-	-
R/I-	37	–	3	9	6	6	1	12	-
=1+	5	–	–	2	3	-	-	-	
=1-	34	S		6	9	6	5	2	1
9	2		–	-	-	1	1	-	-
(R/B	20	1	1	2	.	5	3	8	-)

Julio, 12 months alter adoption (age 5:3)

		Child's responses							
		1+	I -	R/I+	R/I-	=1+	=1-	R	No
Mother's initiatives	N								
1+	1	-			1	-	_	_	_
|-	5	-		-	3	_	1		_
R/I+	29	-			-	12	2	3	2	
R/I-	30		2			7	4	14	3	_
=1+	15	-			-	8	-	-	7	_
=1-	11		1		-	3	-	2	5	-
9	]							I		
(R/B	20		2		-	-	4	1 12	2	-)

		Mother's responses							
		1+	I -	R/I+	R/I-	=1+	=1-	R	N
Child's initiatives	N								
1+	0	-			-		_	_	_
|-	5		1	2	2	_	_	_	_
R/I+	0	-			·	_		_	_	_
R/I-	34		1		9	9	4		9	1
=1+	10	-			4	6	-	_	_	_
=1-	34	1			12	to	1	1	8		
(R/B	30		2		3	3	12	8	2	-)

Julio, 24 months after adoption (age 6:3)

		Child's responses							
		1+	I -	R/I+	R/I-	=1+	=1-	R	No
Mother's initiatives	N								
r+	12	-	-	1	7	_		4	_
|-	1	-	1	-	-	-	_	_	_
R/I+	61	1	2	1	234	-		23	_
R/I-	26	1	6	3	4	-	3	10	_
=1+	25	1	-	2	14		_	8	_
=1-	9	1	3	-	2	-	-	3	_
(R/B	33	4	12	1	3	-	7	6	-)

		Mother's responses							
		1+	|-	R/I+	R/I-	=1+	=1-	R	N<
Quid's initiatives	N								
1+	8	-	-	4	4	_	_	_	_
|-	24	2	-	13	5	_	1	3	
R/I+	8	-	-	5	1	_	_	2	_
R/I-	64	-	-	29	13	4	2	16	_
=1+	0	-				_	_	_	_
=1-	10	1	_	4	1	_	_	4	_
?	4	-	-	1	-	3		_	_
(R/B	54	8	1	5	3	19	7	11	-)

Guillermo, age 1:11

		Child's responses							
		1+	|-	R/I+	R/I-	=1+	=1-	R	No
Mother's initiatives	N								
1+	2	-	-	-	-	1	-	-	1
|-	1	-	-	-	-	-	1	-	-
R/I+	61	2	2	3	24	5	5	18	2	
R/I-	30	2	5	-	6	5	10	1	1	
=1+	8	-	1	1	2	-	1	1	2	
=1-	3	-	2	-	-	-	-	1	-	
(R/B	30	3	6	-	1	4	14	'	1)	

		Mother's responses							
		1+	|-	R/I+	R/I-	=1+	=1-	R	No
Child's initiatives	N								
1+	7	1	-	3	2	-	-	1	-	
|-	20	-	-	11	3	-	-	6	-
R/I+	5	-	-	2	1	1-	-	2	-	
R/I-	38	-	-	22	3	1	-	12	-	
=1+	16	-	-	9	6	-	-	2	-	
=1-	52	1	_	2	4	5	2	1 1	-	
?	7		-	-	-	1	-	1 1	-	
(R/B	25	1	-	2	4	5	2	1 1	-)	

Guillermo, age 4:0

		Child's responses							
		1+	|-	R/I+	R/I-	=1+	=1-	R	No
Mother's initiatives	N								
1+	5	1	-	-	3	-	-	1	-	
|-	5	-	1	2	2	-	-	-	-
R/I+	46	2	2	3	20	3	4	12	-	
R/I-	31	4	3	4	10	-	5	5	-	
=1+	5	-	-	1	4	-	-	-	-	
=1-	6	1	-	-	1	-	1	2	1	
(R/B	46	1	4	2	3	6	30	2	1)	

		Mother's responses							
		1+	|-	R/I+	R/I-	=1+	=1-	R	No
Child's initiatives	N								
1+	10	-	-	2	-	-	-	8	-	
|-	14	-	-	6	2	-	-	6	-
R/I+	12	-	-	2	7	-	-	2	1	
R/I-	52	2	3	16	12	-	1	18	-	
=1+	11	1	-	3	2	-	1	5	-	
=1-	44	1	1	13	6	-	2	23	1	
?	1	-	-	1		-	-	-	-	
(R/B.	22	1	-	4	3	5	2	7	-)	

Rupert, age 1:11

Mother's initiatives	N	Child's responses 1+	I -	R/I+	R/I-	=1+	=1-	R	No
1+	3	-	-		2			1	-
I-	1	-	1		-			_	_
R/I+	45	-			21	1	5	18	-
R/I-	37	-	7		4	-	22	4	-
=1+	9	-	1		3	-	1	4	-
=1-	7	-		1	3	-	3	-	-
(R/B	30	1	6		1	2	19	1	-)

Child's initiatives	N	Mother's responses 1+	I -	R/I+	R/I-	=1+	=1-	R	No
1+	1	-		1	-	-		.	_
I-	15	1		4	9	-		1	
R/I+	1	-	-		-	-		1	
R/I-	35	-		18	10	I	1	6	
=1+	3	-		2	1	-	-	-	-
=1-	53	2	1	15	15	5	3	12	-
(R/B	28	-		7	3	6	3	9	-)

Rupert, age 2:11

Mother's initiatives	N	Child's responses 1+	I -	R/I+	R/I-	=1+	=1-	R	No
1+	1		-		-	-	-	1	-
I-	2		1			-	1	-	
R/I+	27	-		4	12	1	2	7	-
R/I-	31	2	1	4	9	-	1	14	-
=1+	6	-	-		1	-	2	3	
=1-	13	-	2	3	3	1	3	1	-
(R/B	12	2	1		2	-	6	1	")

ChUd's initiatives	N	Mother's responses 1+	I -	R/I+	R/I-	=1+	=1-	R	No
1+	5	1	-		2	1	-	1	_
I-	6	-	1	2	2		1	_	-
R/I+	10	-		4	5	-	1	_	_
R/I-	28	-	1	13	7	1	3	3	_
=1+	2	-	-		1	-	-	1	-
=1-	28	-		5	14	2	3	4	
(R/B	13	-		3	-	2	5	3	-)

Rupert, age 3:11

Mother's initiatives	N	Child's responses 1+	I -	R/I+	R/I-	=1+	=1-	R	No
1+	6				2			1	
I-	5				2		1	1	-
R/I+	30				10	3	3	8	1
R/I-	21				4		1	6	-
=1+	8				6	-		1	
=1-	6							2	-
(R/B	21						1	6	-)

Child's initiatives	N	Mother's responses 1+	I -	R/I+	R/I-	=1+	=1-	R	No
1+	5	-	-	2	2				
I-	18	3	3	8	4				
R/I+	3	-	-	2	1				
R/I-	25	2	2	10	10				
=1+	5	-	-	1	2				
=1-	6	-	-	5	1				
(R/B	20	1		1	1				

Table 5a Functions, % of own utterances, Juan [1:10]

Months after adoption	0		1		3		6		12		24	
Age:	1:10		1:11		2:1		2:4		2:10		3:10	
	C	M	C	M	C	M	C	M	C	M	C	M
Provide	57	54	58	58	85	61	58	60	80	57	77	52
Identification	8	11	5	6	16	7	19	9	21	6	12	9
Information	80	15	73	19	49	18	46	20	44	19	41	21
Confirmation		1	-	4	-	5	1	1	1	5	11	
minimal	4	1	-	16	10	26	15	21	10	2	3	2
of own	-				-	-				2	3	2
Refusal	3		-	2	6	2	2	1	1			
Imitation	-				4	-			1			
Evaluation				4	-	1	1	6		1		2
Social				3		1	1	1				
Interjection				4	-	1	1	1	3	1	1	6
Request	34		39	5	37	2	34		11	31		
Identification	2		9	-	6		7		2	11	2	
Information	1C		8	2	13	1	8		3	1		1
Action	19	6	14	3	6	1	9		6	(		7
Confirmation	3	-	8	-	8		10			<	1	
minimal	-	-	-	-	4				-		3	2
Regulation	8	5	3	-	2	1	6		2	3	2	
Regulate attention	8	5	3		1	1	1		1		9	
Regulate behaviour	-	-	-	-	1		5		1			
Nonverbal, vocal	8	1	-	-	-	1	-	2	7	5		
Mirror	-	-	-	-	-							
Illustrate	-	2	-	-	-					2		
Vocal play	-	1	1	-	-	-	-					
Laugh		5	-	-	-		1	-	2	1		-
Nonverbal, somatic	1	2	7	-	-	-			7	7	1	
Smile	5	1	1	-	-				1		1	
Neutral	1	-	-	-		-						
Assistance	1	1	-	-	-	-	-	-	-	1		-
?	-		6	-	10	-	7				4	
TOTAL	100	100	700	100	100	100	100	700	100	100	700	100

Table 5b Functions, % of own utterances, Paolo, [1:10]

Months after adoption:	0		1		3		6		12		24	
Age:	1:10		1:11		2:1		2:4		2:10		3:10	
	C	M	C	M	C	M	C	M	C	M	C	M
Provide	60	49	66	57	84	56	84	47	73	47	78	69
Identification	11	10	1	8	9	4	15	1	20	2	12	4
Information	30	14	58	21	63	16	52	16	29	20	43	31
Confirmation	-	-	-	1	-	1	-	4	-	6	-	1
minimal	10	10	3	19	2	26	8	20	16	11	12	25
of own	-	8	-	-	-	-	1	-	1	1	-	-
Refusal	-	1	-	-	2	-	-	1	1	-	4	-
Imitation	-	-	4	-	2	-	-	-	-	-	-	1
Evaluation	-	-	-	-	-	4	1	-	-	1	-	5
Interjection	9	5	-	8	8	1	8	2	6	6	7	2
Social	-	1	-	-	-	4	-	2	-	-	-	
Request	30	45	9	36	5	41	11	48	22	50	12	30
Identification	7	8	1	6	-	5	4	10	16	14	3	10
Information	5	6	2	8	-	16	-	12	2	15	2	7
Action	IS	7	6	11	2	8	7	6	4	5	5	4
Confirmation	-	10	-	4	3	8	-	IS	-	3	2	7
minimal		14	-	7	-	4	-	2	-	13	2	-
Regulation	-	2	4	5	3	1	4	1	5	1	5	1
Regulate attention	-	2	4	5	3	-	3	1	5	1	5	1
Regulate behaviour	-	-	-	-	-	1	1	-	-	-	-	-
Nonverbal, vocal	-	4	4	1	-	2	-	1	-	1	3	-
Mirror	-	-	-	-	-	1	-	-	-	-	-	-
Illustrate	-	3	-	-	-	-	-	-	-	1	-	-
Vocal play	-	-	-	-	-	1	-	-	-	-	-	-
Laugh	-	1	4	1	-	-	-	1	-	-	3	-
Nonverbal, somatic	-	-	2	-	-	-	-	-	-	-	-	-
Smile												
Neutral	-	-	2	-	-	-	-	-	-	-	-	-
Assistance												
?	10	-	15	1	6	-	2	3	-	-	2	-
TOTAL	100	100	100	100	700	100	100	100	100	700	700	100

Table 6a Share in percentage of somatic providing of information, Juan [1:10]

Months after adoption:	0	1	3	6	12	24
Age:	1:10	1:11	2:1	2:4	2:10	3:10
	100	100	S3	82	44	38

Table 6b Share in percentage of somatic providing of information, Paolo [1:10]

Months after adoption:	0	1	3	6	12	24
Age:	1:10	1:11	2:1	2:4	2:10	3:10
	75	97	95	64	51	27

Table 5c Functions, % of own utterances, Sergio, [1:10]

Months after adoption:	1		3		6		12		23	
Age:	1: 11		2:1		2:4		2:10		3:9	
	C	M	c	M	c	M	C	M	C	M
Provide	*83*	*42*	*89*	*47*	*74*	*50*	*94*	*47*	*86*	*47*
Identification	-	4	-	14	8	6	6	4	14	3
Information	76	15	88	25	43	27	70	14	39	15
Confirmation	-	3	-	-	-	2	-	4		2
minimal	-	13	-	5	6	10	11	8	19	17
of own	-	-	-	-	·	-	-	2	-	-
Refusal	-	2		-	3	-	5		4	-
Imitation	-	-		-	1	-		·		
Evaluation										1
Interjection	7	3	1	3	13	5	2	15	9	9
Social	-	2	-	-	-	-	-	-	1	-
Request	9	*42*	*6*	*50*	*8*	*41*	-	*50*	*3*	*47*
Identification	-	7		6	·	-	-	9	-	10
Information	-	18	-	19	2	17		18	2	17
Action	9	2	6	7	6	5	-	14	-	7
Confirmation	-	8	-	15	-	17	-	7	-	12
minimal	-	7	-	3	-	2		2	1	1
Regulation	-	*4*	-	*3*	-	7	-	2	-	
Regulate attention	-	4	-	3	-	7		1	-	4
Regulate behaviour	-	-	-	-	-	-	-	1	-	
Nonverbal, vocal	*1*	*10*	-	-		-	-	*1*	*5*	2
Mirror	-	6								
Illustrate	-	2	-	-		-	-	·	4	
Vocal play										
Laugh	1	2	-	-	-	-	-	1	1	2
Nonverbal, somatic	*4*	-	*4*	-	*3*	-	-			
Smile	3		2	-	3	-				
Neutral	1		2	-		-				
Assistance										
?	3	2	1		15	2	6	-	6	-
TOTAL	*100*	*100*	*100*	*ill'!*	*100*	*100*	*100*	*100*	700	700

Table 6c Share in percentage of somatic providing of information, Sergio [1:10]

Months after adoption:	1	3	6	12	24
Age:	1:11	2:1	2:4	2:10	3:10
	99	96	69	44	29

Table 5d Functions, % of own utterances, Julio, [4:3]

Months after adoption:	*2*		6		12		24	
Age:	4:5		4:9		5:3		6:3	
	C	M	c	M	c	M	C	M
Provide	*80*	*60*	*89*	*62*	*80*	*52*	*84*	49
Identification	8	13	9	8	10	5	20	3
Information	55	19	55	23	49	26	41	13
Confirmation	-	1	-	1	-	3	1	5
minimal	3	20	11	23	13	12	9	22
of own	-	4	-	2	-	-	-	-
Refusal	1	2	-	-	-	2	6	3
Imitation	1	-	3	-	6	-	7	1
Evaluation	-	2	-	-	-	2	-	1
Interjection	12	-	11	2	1	2	-	-
Social	-	-	-	-	-	-	-	1
Request	*18*	*35*	*10*	*33*	*9*	*41*	*5*	*44*
Identification	5	16	*1*	14	*2*	18	1	19
Information	5	8	1	5	5	15	2	10
Action	1	4	-	5	-	4	-	5
Confirmation	-	3	-	8	-	4	2	6
minimal	7	4	2	1	2	-	-	4
Regulation	0	*4*	*1*	*3*	2	5	7	
Regulate attention	-	3	1	2	2	4	1	-
Regulate behaviour	-	1	-	1	-	1	-	4
Nonverbal, vocal	*1*	/	*1*	2	*5*	*1*	2	2
Mirror	-	1	-	-	-	-	-	-
Illustrate	1	-	1	1	4	-	-	-
Vocal play	-	-	-	-	-	-	2	-
Laugh	-	-	-	1	1	1	-	2
Nonverbal, somatic	*1*	-	-	-	2	*1*	*3*	7
Smile	-	-	-	-	-	-	*2*	1
Neutral	1	-	-	-	2	1	1	-
Assistance								
?	-	-	-	1	2	-	-	-
TOTAL	*100*	*101)*	*100*	*100*	*100*	700	*100*	*100*

Table 6d Share in percentage of somatic providing of information, Julio [4:3]

Months after adoption:	2	6	12	24
Age:	4:5	4:9	5:3	6:3
	78	53	66	21

Table 5e Functions, % of own utterances, Guillermo, [0:8]

Age:	1:10		4:0	
	C	M	C	M
Provide	*73*	*46*	*68*	*58*
Identification	13	2	12	1
Information	45	19	45	26
Confirmation	-	4		5
minimal	10	20	4	14
of own	-			-
Refusal	4	-	2	1
Imitation	1			-
Evaluation			1	4
Interjection		1	2	6
Social			1	1
Request	25	*52*	*16*	*31*
Identification	-	7	4	5
Information	1	13	6	14
Action	24	8	1	3
Confirmation	-	7	2	7
minimal	-	17	3	2
Regulation	*1*	*2*	*8*	*10*
Regulate attention	1	2	8	9
Regulate behaviour	-			1
Nonverbal, vocal			*4*	-
Mirror	-			-
Illusü'ate		-	2	-
Vocal play			1	-
Laugh			1	-
Nonverbal, somatic	-			-
Smile	-			-
Neutral	-			-
Assistance	-			-
	1		4	1
TOTAL	*100*	*100*	*100*	700

Table 6e Share in percentage of somatic providing of information, Guillermo [0:8]

Months after adoption:	14	40
Age:	1:10	4:0
	48	24

Table 5f Functions, % of own utterances, Rupert, [Sw.]

Age:	1:11		2:5		2:11		3:11	
	C	M	C	M	C	M	C	M
Provide	92	*65*	*89*	*61*	*70*	*68*	*93*	*55*
Identification	11	1	5	2	13	2	3	5
Information	67	27	69	28	49	48	63	37
Confirmation	6	7	-	6	-	1	1	1
minimal	3	28	*9*	18	8	11	12	7
of own	-	-	-	-	-	1	-	1
Refusal	2	-	2	-	-	2	3	2
Imitation	1	-	-	1	-	-	1	-
Evaluation	3	-	-	3	-	-	-	-
Interjection	-	-	3	1	1	3	9	1
Social	-	-	1	2	-	-	-	•
Request	*4*	*33*	2	*35*	*14*	*30*	6	*40*
Identification	1	5	1	8	*2*	3	-	3
Information	1	4	-	13	6	7	3	16
Action	2	4	1	6	3	6	1	8
Confirmation	-	17	-	6	2	7	2	9
minimal	-	3	-	2	1	7	-	4
Regulation	*/*	*1*	*4*	*2*	*1*	-	-	2
Regulate attention	1	1	4	*2*	1	-	-	-
Regulate behaviour	-	-	-	-	-	-	-	2
Nonverbal, vocal	*4*	*3*	*1*	-	*13*	2	*1*	*1*
Minror								
Illustrate	4	1	-	-	13	-	-	-
Vocal play	-	-	-	-	-	-	1	-
Laugh	-	2	1	-	-	2	-	1
Nonverbal, somatic	-	-	*1*		2	-	2	2
Smile	-	-	-	-	-	-	-	1
Neutral	-	-	1	1	2	-	2	1
Assistance								
?	-	-	1	1	-	-	-	-
TOTAL	*100*	*100*	*100*	*100*	*100*	*100*	700	700

Table 6f Share in percentage of somatic providing of information, Rupert [Sw.]

Age:	1:11	2:5	2:11	3:11
	50	52	53	64

Table 7 Syntactic form, % of own verbal utterances

Child	Juan, [1:10] M.a.a. 0 6 12 24 Age: 1:10 2:4 2:10 3:10	Paolo t1-im 0 6 12 24 1:10 2:4 2:10 3:10
Declarative	- 11 2 53	34 23 43
Interrogative	- 1 - 5	- 1 30 g
Imperative	- - 13 -	11 6 13
One-word etc.	- 88 85 42	100 54 41 30
Total	- 100 100 100	100 100 100 100
Mother	0 6 12 24	0 6 12 24
Declarative	31 37 38 34	25 30 36 50
Interrogative	32 30 39 38	47 50 47 28
Imperative	10 4 2 -	1 1 1
One-word etc.	29 39 21 28	27 20 17 21
Total	100 100 100 100	100 100 100 100

Child	Sergio [1:10] M.a.a. 1 6 12 23 Age: 1:11 2:4 2:10 3:9	Julio. 14-31 2 6 12 24 4:5 4:9 5:3 6:3
Declarative	- 2 32 46	6 10 11
Interrogative	- - - 4	12 8 3
Imperative	- - - -	1
One-word etc.	100 98 68 50	100 81 82 66
Total	100 100 100 100	100 100 100 100
Mother	1 6 12 23	2 6 12 24
Declarative	22 38 27 27	28 28 34 21
Interrogative	37 38 45 47	34 39 56 41
Imperative	- - 2 -	2 s 3
One-word etc.	66 24 26 26	38 31 14 35
Total	100 100 100 100	100 100 100 100

Child	Guillermo, [0:8] Age: 1:10 4:0	Rnne.rl tSw 1 1:11 2:5 ;!.T1 3:11
Declarative	8 50	17 32 (() 48
Interrogative	- 14	2 2 12
Imperative	22	4 ;
One-word etc.	70 36	77 68 ; 6 40
Total	100 100	100 100 100 100
Mother	GO 324	R0 R6 F,12 R24
Declarative	33 U	40 43 51 44
Interrogative	49 $5	35 29 25 32
Imperative	3	1 1 2
One-word etc.	15 (3	24 28 23 22
Total	100 00	100 100 100 100

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