SFB 441 **Linguistic Data Structures**

EBERHARD KARLS UNIVERSITÄT TÜBINGEN

Language Mixing and Language Separation in Bilingual Russian-German Children

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Relevance

- 3 mio. immigrants from Russian-speaking countries live in Germany

- Questions of bilingual language education

  ➢ Differentiation between languages?

  ➢ Language mixing?

Background

SFB 441, Project B16:

Verbal aspect in bilingual Russian-German children

Tanja Anstatt, Elena Dieser, Tilman Berger

Outline

0. Some crucial factors in bilingual language acquisition

1. The beginning of bilingual language acquisition: Alex (1;10-2;9)
   - ➢ When does language separation start?

2. Further development: Children aged 3, 5, and 9 years
   - ➢ The acquisition of the "monolingual mode"

3. Interferences in the Russian speech of 4-and 5-year-old children

0. Some crucial factors in bilingual language acquisition

➢ **Age at start of second language input**

1) 0 – 3 years: Two first languages (2L1)
2) 3 – 10 years: Child second language acquisition (cL2)
3) After 10 years: Adult second language acquisition (aL2)

➢ **Input method by the parents**

1) One person – one language
2) Home language – environment language
3) Situational use of languages

1. The beginning of bilingual language acquisition or: When does language separation start?

Single-System Hypothesis

➢ Stages with undifferentiated languages

1. One lexical system with words from both languages
2. Distinct lexical systems develop, only one grammatical system
3. Distinct grammatical systems develop

(Volterra / Taeschner 1978)

Dual-System Hypothesis

➢ Differentiation from a very early point in development

(Overview: Meisel 2004)

The Alex-Corpus (1)

- Longitudinal study since birth (conducted by E. Dieser)

For the present study:

- Transcriptions of 16 videotapes from 2;3 to 2;10, interaction in both languages with his mother and in German with a monolingual German
- Diary notes

(Cf. E. Dieser, in press)

The Alex-Corpus (2)

- Born in Germany
- Both parents native speakers of Russian

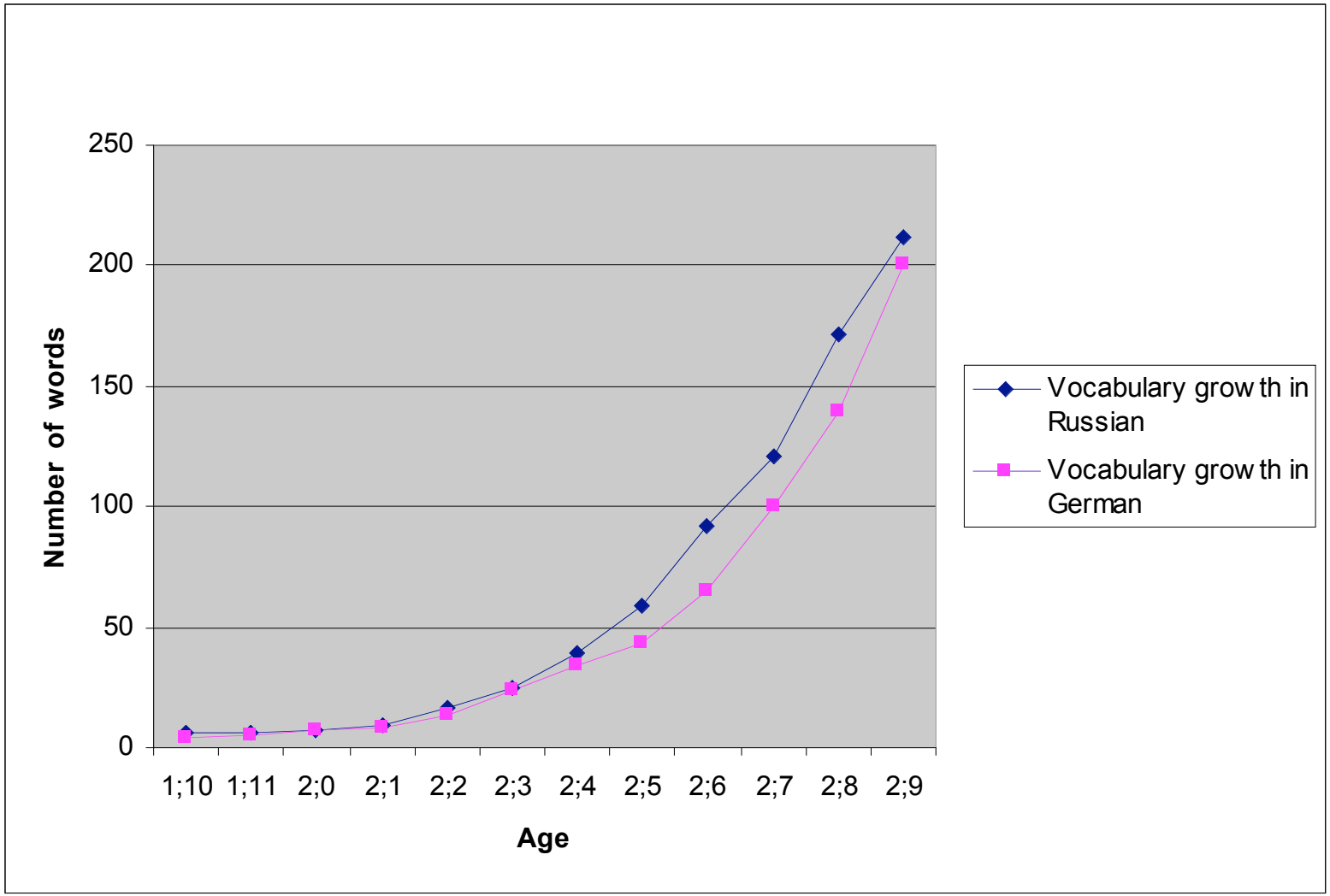
- Language input by the parents:
  - Mostly Russian
  - German in the presence of Germans

  ⇒ Russian ca. 2/3 (parents and family),

  ⇒ German ca. 1/3 (parents and friends)

  ⇒ but: no mixing by the parents within one conversation

Alex – Lexical development: Rate of vocabulary acquisition



Source: E. Dieser in press

Alex – Lexical development: First words until 2;2 (1)

Word	First production
mama	ca. 1;2
papa	ca. 1;4
aua **(G)** ‘ow’	1;5
Auto **(G)** ‘car’	1;8
njam-njam ‘eat; it tastes good’	1;9
baba **(R)** ‘grandma’	1;10
djadja **(R)** ‘uncle/man’	1;10
wau-wau **(G)** ‘bow-wow’	1;11
da **(G)** ‘there’	2;0

Alex – Lexical development: First words until 2;2 (2)

Word	First production
ba-ba(x) **(R)** ‘fell down’	2;0
(h)allo **(G)** ‘hello’	2;0
heiß **(G)** ‘hot’	2;0
Antoxa **(R)** (proper name)	2;1
kartoxa **(R)** ‘potato’	2;1
uxo **(R)** ‘ear’	2;2
nein **(G)** ‘no’	2;2
auch **(G)** ‘too, as well as’	2;2
da **(R)** ‘yes’	2;2
tjotja **(R)** ‘aunt’	2;2

Source: E. Dieser in press

Alex – Lexical development: First words and their equivalents

Word	First pro-duction	Equivalent	Time interval to first production of equivalent (months)
Auto (G) 'car'	1;8	**mashinka**	13
baba **(R)** 'grandma'	1;10	Oma	10
djadja **(R)** 'uncle/man'	1;10	Mann	10
da (G) 'there'	2;0	**tam**	8
(h)allo (G) 'hello'	2;0	**privet**	12
heiß (G) 'hot'	2;0	**gorjachij**	9
kartoxa **(R)** 'potato'	2;1	Kartoffel	7
uxo **(R)** 'ear'	2;2	Ohr	9
nein (G) 'no'	2;2	**net**	5
auch (G) 'too, as well'	2;2	**tozhe**	8
da **(R)** 'yes'	2;2	ja	5
tjotja **(R)** 'aunt'	2;2	Frau	8

Source: E. Dieser in press

Alex – Lexical development

(1) Grandmother: *Skazhi mashina.*

‘Say car.’$_{R}$

Alex: *Auto.*

‘Car$_{G}$.’

(Alex 2;3.24)

➢ **No equivalents until Alex had acquired 50 words**

at the age of 2;4!

Alex – Syntactical development (1)

Two-word-utterances

Regular use from 2;6

(2)	*Alex knizhka*	‘Alex book$_R$’	(2;6.10)
(3)	*auch kirpich*	‘too$_G$ brick$_R$’	(2;6.10)
(4)	*nein Auto*	‘no$_G$ car$_G$’	(2;7.20)
(5)	*ein zajchik*	‘a$_G$ bunny$_R$’	(2;8.16)

Schema:

Proper Name / function word (G) + content word (R or G)

Alex – Syntactical Development (2)

After a three-week stay in Russia:

(6)	*e'to auch botinochki*	'that$_R$ also$_G$ shoes$_R$'	(2;9.6)
(7)	*tam auch Hühner*	'there$_R$ too$_G$ chickens$_G$'	(2;9.6)

⇒ Support for the Single-System-Hypothesis?

Alex – Adequacy of language use (1)

Russian recordings with his mother

	Percentage of tokens					
	Russian	Russian-German	German	Repeated words	unintelli-gible	N =
Age 2;7.20	50%	9%	25%	3%	11%	258
Age 2;8.16	41%	16%	36%	4%	3%	108
Age 2;9.6	67%	17%	11%	1%	4%	370
Age 2;10.7	72%	13%	4%	4%	6%	432

Source: E. Dieser in press

Alex – Adequacy of language use (2)

German recordings with his mother

	Percentage of tokens					
	German	Russian-German	**Russian**	Repeated words	unintelli-gible	N =
Age 2;7.20	66%	3%	**10%**	10%	9%	106
Age 2;8.16	72%	10%	**13%**	2%	3%	123
Age 2;9.06	46%	15%	**27%**	8%	4%	368
Age 2;10.7	73%	12%	**5%**	4%	5%	411

Source: E. Dieser in press

Alex – Adequacy of language use (3)

German recording with a monolingual German

	Percentage of tokens					
	German	Russian-German	**Russian**	Repeated words	unintelligible	N =
Age 2;5.1	49%	40%	**1%**	6%	4%	67

Source: E. Dieser in press

Alex – Adequacy of language use (4)

- Adaptation to the situation
- More use of inadequate language with the bilingual mother
- Avoidance of inadequate language with monolinguals

Absence of equivalents and use of sentence patterns with German function words

- ➢ Strategies for decreasing the burden of language processing
- ➢ Avoidance of synonyms (cf. the “Principle of contrast”, Clark 1987)
- ➢ Use of repeated syntactic schemas (cf. Elsen 1999)

German function words

- ➢ Contact with monolingual Germans
- ➢ Change after stay in Russia

Summary of Section 1

- ➢ Language differentiation from a very early point in development
- ➢ Seemingly contradictory facts must be explained as strategies which aid language acquisition

2. Further Development: Children aged 3, 5, and 9 years

➢ Extent of mixing with monolingual interlocutors

Terms

Language-mixing

➢ Generic term for all instances where features of the two languages of a bilingual are juxtaposed (cf. Meisel 1994)

Code-switching

➢ Follows pragmatic (and grammatical) rules

Code-mixing

➢ Violates pragmatic rules (cf. Köppe 1997)

Interference

➢ Influence at a structural level

Language Mode Model (Grosjean 2001)

- **Monolingual mode**:
  Using language A, language B is deactivated
  ⇒ with monolingual interlocutors

- **Intermediate mode**:
  Using language A, language B is slightly activated
  ⇒ e.g., with bilingual interlocutors, rejecting mixings

- **Bilingual mode**:
  Using language A, languages A and B are activated (B less so than A)
  ⇒ with bilingual interlocutors

Cross-sectional recordings of the Tübingen-Corpus

- Video recordings of bilingual children aged 3 to 9 years
- Present study: 9 children
- Procedure: Narration of a picture book, animated film, comments on a game, free talk about experiences of the child, ca. 45 min.
- Taping in both languages on two consecutive days
- Two different monolingual investigators

Group 1: 3-year-olds

Child No.	Age	In Germany since	Language of parents with child	Contact with German
1 (boy)	3;0	birth	Russian	kindergarden
2 (girl)	3;3	birth	Russian, little German	mother, play yard

Russian recording of Child No. 1 (3;0)

Utterances: N = 715

Language	Percentage
Russian	98%
German or mixed	**2%**

Russian recording of Child No. 2 (3;3)

Utterances: N = 636

Language	Percentage
Russian	99,7%
German or mixed	**0,3%**

German recording of Child No. 1 (3;0)

Utterances: N = 376

Language	Percentage
German	69%
Russian or mixed	31%

German recording of Child No. 2 (3;3)

Utterances: N = 245

Language	Percentage
German	62%
Russian or mixed	38%

German recording of Child No. 1 (3;0): Addressee (1)

Utterances: N = 376

Language	Addressee	Percentage	Percentage
German		69%	
Russian		19%	
	mother		**12%**
	investigator		6%
	unclear		1%
Mixed		12%	

Child No. 1 (3;0): Code-switching

(8)

Inv.: *was machen sie dort, die Pinguine?*

‘what are they doing there, the penguins?’

Child: ***sie machen dort kashku.***

‘they’re making there porridge$_{R}$.’

Child: ***a kak kashka po-nemecki?***

addressed to his mother: ‘and how is kashka in German?’

Mother: *Brei.*

‘porridge.’

Daniel: ***ein Brei.***

addressed to the investigator: ‘a porridge.’

German recording of Child No. 1 (3;0): Addressee (2)

Utterances: N = 376

Language	addressee	percentage	percentage
German		69%	
Russian		19%	
	mother		**12%**
	investigator		**6%**
	unclear		**1%**
Mixed		12%	
	mother		**1%**
	investigator		**11%**

Child No. 1 (3;0): Code-mixing

(9) ***ein dom.***

'a_G $house_R$'

(10) ***eine ulitte.***

'a_G $snail_R$' (< Russ. *ulitka* 'snail')

(11) ***eine krote.***

'a_G $mole_R$' (< Russ. *krot* 'mole')

Summary: 3-year-olds

- Capable of adaquate language use and code-switching
- Code-switching and code-mixing as helping devices
- Low barrier to using code-mixing
- Difficulties in switching into the monolingual mode

Group 2: 5-year-olds

Child No.	Age	In Germany since	Language of parents with child	Contact with German
3 (girl)	4;9	birth	Russian, little German	kindergarden
4 (girl)	5;0	birth	Russian, father German	father, kindergarden
5 (girl)	5;2	birth	Russian, little German	kindergarden
6 (boy)	5;8	4 months after birth	Russian, little German	kindergarden

Group 2: 5-year-olds

Code-switching

➢ Doesn’t occur

Code-mixing: Proportions

Child No.	Age	Mixed utterances in German recording	Mixed utterances in Russian recording
3	4;9	0,8%	2,4%
4	5;0	0,3%	1,7%
5	5;2	0%	4,3%
6	5;8	0,3%	12,8%

Code-mixing: characteristics

➢ Mostly nouns

(12) **wenn jemand ein Tier gewürfelt hat dann darf man ein Schag gehen.** (Child No. 3, 4;9)

'when somebody diced an animal, than you may go one step$_{R}$.'

➢ Other parts of speech:
Some adjectives
In the Russian recordings: *doch* 'but', *hallo* 'hello', *zack* 'zap'

➢ phonetically and often morphologically integrated

(13) *bina* 'bee' (< G. *Biene)*, plural: *binen, biny, bineny* (Child No. 6, 5;8)

Summary: 5-year-olds

➢ Fewer difficulties switching into the monolingual mode

➢ More code-mixing in Russian than in German

Reasons:

⇒ No experience with Russian monolinguals

⇒ Mixed input

Group 3: 8 and 9-year-olds

Child No.	Age	In Germany since	Language of parents with child	Contact with German
7 (girl)	8;2	birth	Russian, little German	kindergarden, school (3d class)
8 (girl)	9;6	birth	Russian, little German	kindergarden, school (4th class)
9 (girl)	9;6	2;10	Russian, little German	kindergarden, school (4th class)

Group 3: 8 and 9-year-olds

Code-mixing: Proportions

Child No.	Age	Mixed utterances in German recording	Mixed utterances in Russian recording
7	8;2	0%	2,4%
8	9;6	0%	1,5%
9	9;6	0%	12,7%

Summary of Section 2

- ➢ All children, even the youngest, were able to use the languages adequately
- ➢ The younger the child, the lower the barrier to using language-mixing as a helping device
- ➢ Acquisition of monolingual mode
- ➢ Crucial factor: contact with monolingual speakers of both languages

3. Cross-linguistic influence: Interferences in the Russian speech of 4- and 5-year-old children

➢ Comparison:

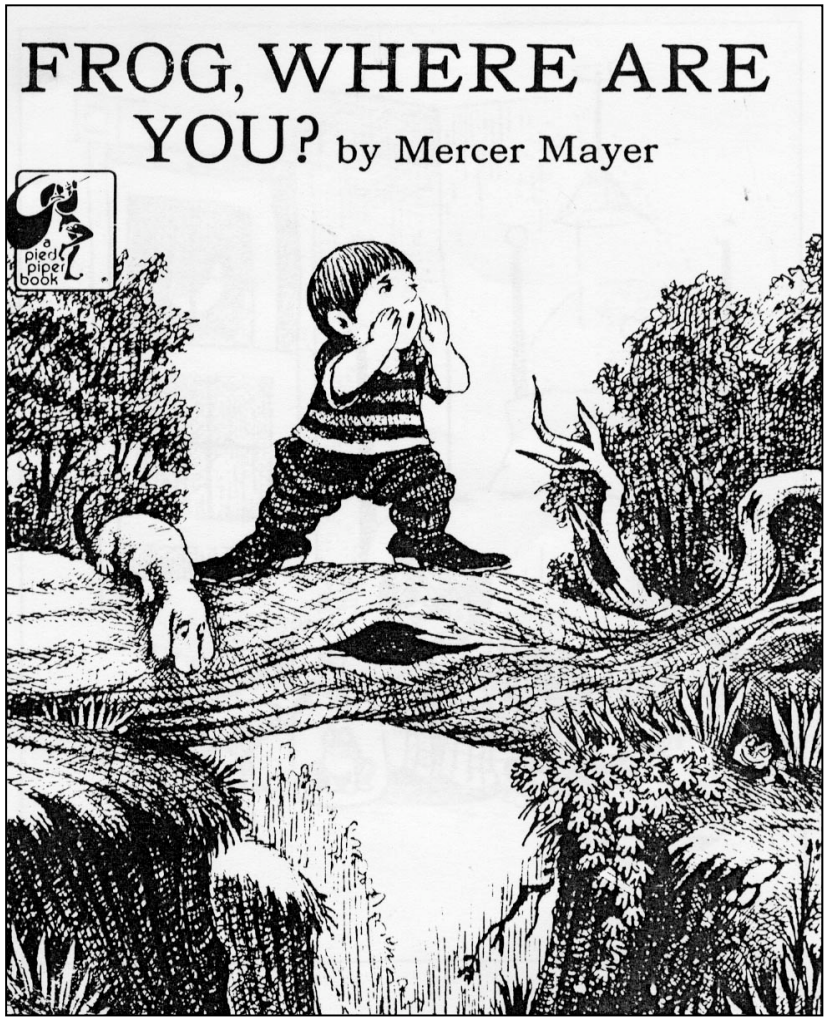
1. Bilingual to monolingual children
2. Children with 2L1 to children with German as cL2

The Munich-Corpus

(Part of the Tuebingen-Corpus)

- ➢ Collected in a bilingual Russian-German kindergarten in Munich
- ➢ Narrations of a picture book by 14 children in Russian and German
- ➢ Present study: Only Russian narrations

The Frog story



The children of the Munich corpus

Parents Ge+Ru **2 L1**	
10 (boy)	3;10
11 (girl)	4;00
12 (boy)	4;05
13 (girl)	4;10
14 (girl)	5;00
15 (boy)	5;04
16 (girl)	5;09
Balanced languages	

Parents Russ. **German = L2**	
17 (boy)	4;02
18 (boy)	4;03
19 (boy)	5;00
20 (boy)	5;02
21 (girl)	5;07
22 (girl)	5;10
23 (girl)	6;00
Russian dominant	

Corpus monolingual children

➢ 23 Frog stories by Russian monolinguals:

3-year-olds: 2

4-year-olds: 8

5-year-olds: 13

Sources:

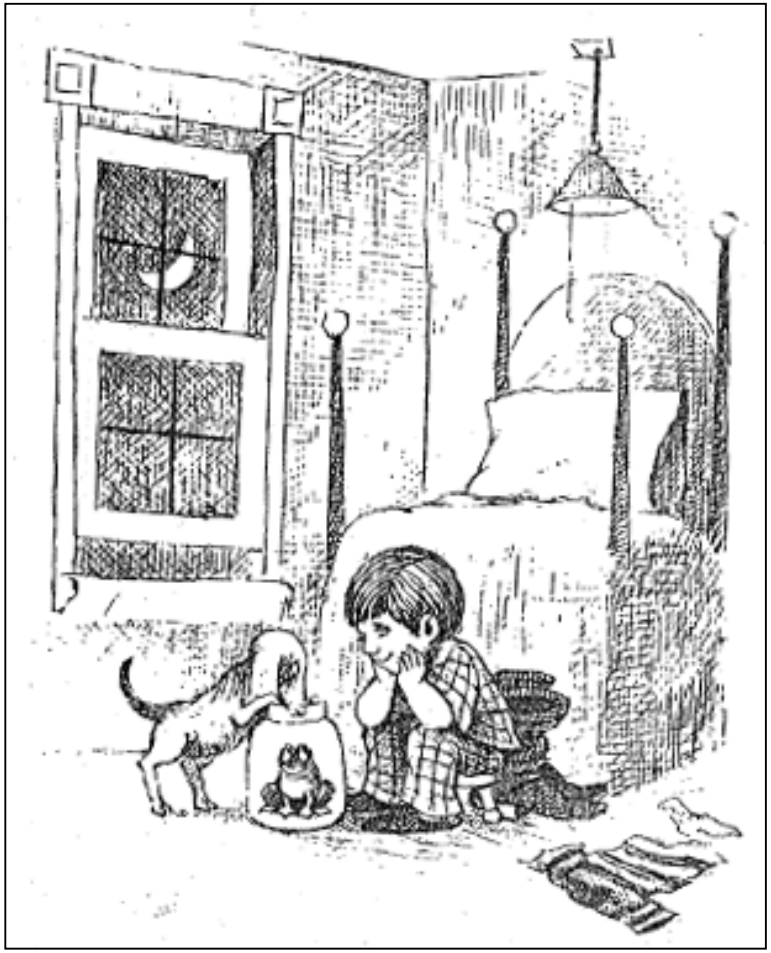
- 17 narrations collected by the Tuebingen SFB-project;
- 3 narrations published in the Bjulleten' foneticheskogo fonda russkogo jazyka, Perm' / Bochum 1999;
- 3 narrations published by Childes (http://childes.psy.cmu.edu/)

Lexical interferences: Calques (1)

➢ “banka”

(14) *steklo* ‘glass’
3 children
cf. German *Glas* 1. ‘material’,
2. ‘container from this material’

(15) *butylka* ‘bottle’
akvarium ‘aquarium’
vedjorko ‘bucket’
chashka ‘cup, dish’



Lexical interferences: Calques (2)

➢ *i potom / i togda* instead of *a potom* ‘and then’

(16) *i togda on padaet s balkona […].*

‘and then he falls from the balcony.’

i togda vot on sobachku vzjal […].

‘and then there he the dog took.’

(Child No. 15, 5;4)

Lexical interferences: Calques

Bilinguals 2L1 vs. bilinguals L2

Parents Ge+Ru **2 L1**		*steklo*	*i po-tom / i togda*
10 (boy)	3;10	•	
11 (girl)	4;00		
12 (boy)	4;05		
13 (girl)	4;10		**12**
14 (girl)	5;00	•	**6**
15 (boy)	5;04		**11**
16 (girl)	5;09		**6**

Parents Russ. **German = L2**		*steklo*	*i po-tom / i togda*
17 (boy)	4;02		
18 (boy)	4;03		**2**
19 (boy)	5;00		
20 (boy)	5;02		
21 (girl)	5;07		**1**
22 (girl)	5;10	•	
23 (girl)	6;00		**7**

Lexical interferences: „steklo“ and „i potom / i togda“
Bilinguals vs. monolinguals

	Bilinguals (N = 14)		Monolinguals (N = 23)	
	Tokens	Number of children who used this form	Tokens	Number of children who used this form
steklo	6	3 (21%)	0	0
i potom / i togda	45	7 (50%)	0	0

Morphosyntax: Accusative instead of preposition + accusative

(17) *mal'chik on zalezaet derevo* (Child No. 14, 5;00)

'the boy, he is climbing up the tree'

instead of: *zalezaet <u>na</u> derevo*

⇒ not with monolinguals

⇒ only "red" group

(18) *Zdes' on smotrit ljagushku.* (Child No. 19, 5;00)

'here he looks at the frog'

⇒ 5 children of "blue" group, 2 of "red" group

⇒ 1 monolingual

Morphosyntax: Accusative instead of preposition + accusative – bilinguals 2L1 vs. bilinguals L2

Parents Ge+Ru **2 L1**		acc instead of prep+acc
10 (boy)	3;10	
11 (girl)	4;00	**6**
12 (boy)	4;05	**1**
13 (girl)	4;10	**1**
14 (girl)	5;00	**1**
15 (boy)	5;04	**1**
16 (girl)	5;09	**1**

Parents Russ. **German = L2**		acc instead of prep+acc
17 (boy)	4;02	**2**
18 (boy)	4;03	
19 (boy)	5;00	**2**
20 (boy)	5;02	
21 (girl)	5;07	
22 (girl)	5;10	
23 (girl)	6;00	

Morphosyntax: Accusative instead of preposition + accusative – bilinguals vs. monolinguals

	Bilinguals (N = 14)		Monolinguals (N = 23)	
	Tokens	Number of children	Tokens	Number of children
acc. instead of prep+acc.	15	8 (57%)	1	1 (4%)

Morphosyntax: Gender agreement

sobaka ‘dog’, *ljagushka* ‘frog’

(19) *zdes’ on ishchet e’tu ljagushku, a sobachka$_i$ zastrjala v banke.*

‘here he searches for this frog and the dog got stuck in the glass.’

[…]

zdes’ oni tak krichali, chto on$_i$ upal.

‘here they shouted so that he fell down.’

(Child No. 22, 5;10)

Morphosyntax: Gender agreement – bilinguals 2L1 vs. bilinguals L2

Parents Ge+Ru **2 L1**		masc. agreement with *sobaka / ljagushka*
10 (boy)	3;10	–
11 (girl)	4;00	**1**
12 (boy)	4;05	**3**
13 (girl)	4;10	**1**
14 (girl)	5;00	–
15 (boy)	5;04	**3**
16 (girl)	5;09	**1**

Parents Russ. **German = L2**		masc. agreement with *sobaka / ljagushka*
17 (boy)	4;02	–
18 (boy)	4;03	**4**
19 (boy)	5;00	–
20 (boy)	5;02	**2**
21 (girl)	5;07	**2**
22 (girl)	5;10	**6**
23 (girl)	6;00	–

Morphosyntax: Gender agreement – bilinguals vs. monolinguals

	Bilinguals (N = 14)		Monolinguals (N = 23)	
	Tokens	Number of children	Tokens	Number of children
masculine agreement with *sobaka / ljagushka*	23	9 (65%)	5	5 (22%)

Word order

Unmarked Russian word order:

Subject – Verb – Second argument (SVX)

Bilinguals: more often than monolinguals

Subject – Second argument – Verb (SXV)

(20) *a potom on svoju ljagushku nashjol* (Child No. 13, 4;10)

'and then he found his frog'

"Verb bracket"

(21) potom oni <u>xoteli ljagushku najti</u> (Child No. 14, 5;00)

'then they wanted to find the frog'

Word order – bilinguals 2L1 vs. bilinguals L2

Parents Ge+Ru **2 L1**		SXV	"verb bracket"
10 (boy)	3;10	**2**	**—**
11 (girl)	4;00	**7**	**4**
12 (boy)	4;05	**3**	**1**
13 (girl)	4;10	**5**	**2**
14 (girl)	5;00	**2**	**2**
15 (boy)	5;04	**3**	**3**
16 (girl)	5;09	—	—

Parents Russ. **German = L2**		SXV	"verb bracket"
17 (boy)	4;02	**3**	**1**
18 (boy)	4;03	**2**	**2**
19 (boy)	5;00	—	—
20 (boy)	5;02	**1**	**1**
21 (girl)	5;07	**1**	**1**
22 (girl)	5;10	**—**	**1**
23 (girl)	6;00	**1**	**1**

Word order – bilinguals vs. monolinguals

	Bilinguals (N = 14)		Monolinguals (N = 23)	
	Tokens	Number of children	Tokens	Number of children
SXV	30	11 (79%)	28	13 (57%)
„verb bracket“	19	11 (79%)	7	5 (22%)

Clusters of German influences

(22) *a potom xochet sobachka derevu zalezt'* (Child No. 11, 4;00)

'and then the dog wants to climb up the tree'

Summary of Section 3

- ➢ Some quite typical influences of German in Russian narrations

- ➢ More often with children, acquiring Russian and German from birth (“blue” group)

- ➢ Overproduction of peripheral structures of Standard Russian, and of deviations, found also in monolingual language acquisition

  ⇒ no far-reaching blending of the two grammatical systems

Theoretical summary

1. Begin of bilingual language acquisition

- ➢ Language System / Competence: Language differentiation
- ➢ Language Production: no full separation

2. Further development of language-mixing

- ➢ No shared structures
- ➢ Code-switching
- ➢ Single word code-mixes, mostly integrated
- ➢ Aquisition of monolingual mode

3. Interaction of language systems

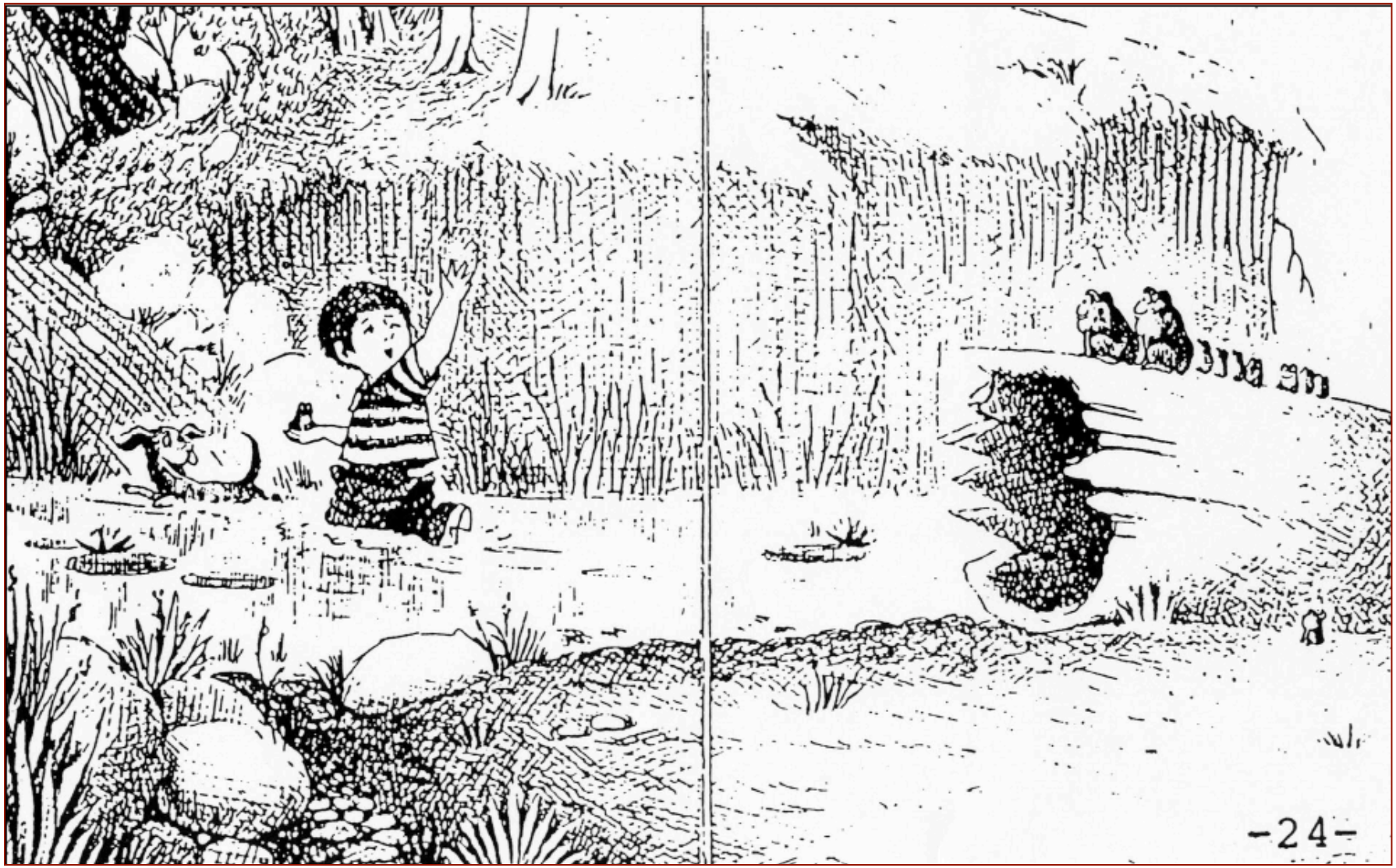
- ➢ No merging of language systems
- ➢ Interferences as interaction in the online processing

Practical Summary

- ➢ Language differentiation from early on, development of this ability by the bilingual children themselves

- ➢ Language-mixing is not a sign of confusion, but a normal development. It may even help the child!

- ➢ Tasks for parents:
  - ⇒ A lot of input without many mixings
  - ⇒ Regular contact of the child with monolingual persons of both languages



i vsjo! (Girl, 9;3)

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