CAMBRIDGE HANDBOOKS IN LINGUISTICS

Genuinely broad in scope, each handbook in this series provides a complete state-of-the-field overview of a major sub-discipline within language study and research. Grouped into broad thematic areas, the chapters in each volume encompass the most important issues and topics within each subject, offering a coherent picture of the latest theories and findings. Together, the volumes will build into an integrated overview of the discipline in its entirety.

Published titles

- The Cambridge Handbook of Phonology, edited by Paul de Lacy
- The Cambridge Handbook of Child Language, edited by Edith L. Bavin

Further titles planned for the series

- The Cambridge Handbook of Sociolinguistics, edited by Rajend Mesthrie and Walt Wolfram
- The Cambridge Handbook of Endangered Languages, edited by Peter Austin

The Cambridge Handbook of Linguistic Code-switching

Edited by

Barbara E. Bullock
and
Almeida Jacqueline Toribio

CAMBRIDGE UNIVERSITY PRESS
Contents

List of figures vii
List of tables viii
List of contributors ix
Acknowledgements xi
Aims and content xii
List of abbreviations xiv

1 Themes in the study of code-switching Barbara E. Bullock and Almeida Jacqueline Toribio

Part I Conceptual and methodological considerations in code-switching research
2 Research techniques for the study of code-switching Marianne Guilberg, Peter Inevelry, and Pieter Muysken 19
3 On the notions of congruence and convergence in code-switching Mark Sebba 40
4 Code-switching and transfer: an exploration of similarities and differences Jeannine Treffers-Daller 58
5 Loan translations versus code-switching Ad Backus and Margreet Dorleijn 75

Part II Social aspects of code-switching
6 Sociolinguistic factors in code-switching Penelope Gardner-Chloros 97
7 The Conversation Analytic model of code-switching Joseph Gafaranga 114
8 Code-switching and the internet Margreet Dorleijn and Jacomine Nortier 127
9 Phonetic accommodation in children's code-switching Ghada Khattab 142
Figures

Figure 7.1 Approaches to language alternation in bilingual conversation page 119

Figure 9.1 Phonetic patterns of English code-switches produced by each of the bilinguals during a 45-minute Arabic session with their mothers (N = 337) 150

Figure 10.1 Waveform of English cat showing long voicing lag and accompanying aspiration for initial /k/ between the vertical lines 168

Figure 12.1 The Three-Stage-Model 210

Figure 12.2 The architecture of the bilingual (Italian–German) language faculty, following MacSwan (2000) 214

Figure 16.1 Lemma activation in speech production (adapted from Levelt 1989) 271

Figure 16.2 Lemma activation in the bilingual mental lexicon (adapted from Myers-Scotton and Jake 2000) 273

Figure 16.3 A bilingual lemma activation model (adapted from Levelt 1989) 279

Figure 18.1 Model of the minimalist framework 322
Researchers have taken the existence of counter-examples to CS constraints as a motivation to revise the constraints. What other factors than non-validity could account for the constant revision of the CS constraints? Perhaps one of the main reasons why constraints on CS have been revised and rejected is the diversity of speakers' proficiency in both languages: many were adult learners rather than bilinguals who acquired both languages from birth. It is quite plausible to assume that grammaticality judgments on CS differ depending on whether the two languages are acquired simultaneously, as first languages, or successively. Another reason for the continual rejection and revision of constraints lies in the methodologies used (see Gullberg et al., this volume). Early analyses of CS were mostly based on speech samples collected in spontaneous interaction. But later studies asked speakers to give acceptability judgments on CS examples constructed by linguists.

The question of whether only spontaneous speech should be admitted for the analysis of CS, as proposed by Mahootian and Santorini (1996), or whether it is problematic to analyze only data coming from spontaneous speech, as argued in Toribio (2001a), remains a disputed topic among CS researchers. Toribio (2001a) assumes that CS data should always be double-checked, that is, it should consist of both natural conversation and acceptability judgments. As a matter of fact, acceptability judgments are subject to debate as they can be substantially influenced by external factors like attitude toward bilingualism or the status of the contributing languages.

Given these problematic aspects of CS research in adult speakers, researchers have been using child data for the purpose of checking the grammaticality of CS in bilinguals. Child speech is less influenced by the external factors mentioned above than adult speech. Hence, what children utter reflects what is possible in CS in the most unfiltered way. This situation clearly contrasts with adult speech, where learning and attitudes may intervene. Additionally, given that age of onset of language acquisition may influence language proficiency, and since the more fluent bilinguals are said to be more accurate code-switchers, future research should study the different acquisition types (simultaneous vs. successive) separately.

12.3 Code-switching in bilingual children

12.3.1 Is child code-mixing constrained?

Researchers have tested bilingual children's knowledge of the CS constraints presented in §12.2.1 and that of other constraints. The main results of these studies are compatible with the criticism about the constraints in adult language. That is, language acquisition researchers found that the constraints were violated by the children and that not all cases of observed switch points were correctly predicted by the constraints. Thus, these constraints when applied to child language corpora are, as with adult corpora, both too restrictive and not restrictive enough.

Lindholm and Padilla (1978) analyze the speech of five Spanish–English bilingual children between the age of 2;10 and 6;2. They observe that only 2% (110 utterances) of the children's utterances are mixed in the sense that they contain material from both languages. The category most affected in mixed utterances is the noun (75%). Verbs and adjectives, although open-class categories, are rarely mixed. Conjunctions, clearly closed-class items, are not expected to be mixed, following Joshi's Constraint on Closed-Class Items; however, mixing is not completely excluded within this category. Lindholm and Padilla's observations cannot be captured by Joshi's Constraint on Closed-Class Items for two reasons. First, the children mix closed-class items, and second, the prevalence of nouns - versus verbs and adjectives - in mixing is unpredicted.

In another important study, Redlinger and Park (1980) investigate four children who have become bilingual in German with a French (two), an English (one), or a Spanish (one) mother. The children were observed for a period of five to nine months, the ages of two to three. In three children, they observe that the category involved most in mixed utterances is again the noun (34%). However, closed-class items are mixed to a considerable extent: 23% adverbs, 13% articles, and 13% pronouns, a result that is unexpected on the basis of Joshi's Constraint on Closed-Class Items. Adverbs and pronouns also figure among the mixed categories of the two German–Italian bilingual children studied by Taeschner (1983) between the ages 3;9 and 4;5 (see also Vihman 1985; Jisa 2000). Although the authors have different definitions for what they call "function words" in child language, it is nevertheless clear that Joshi's Constraint on Closed-Class Items does not hold.


(8) (a.) Shotî esse.
   shot this-one
   "I shot this one."
   (Spanish–English, child between 1;5 and 2;2,
   Lindholm and Padilla 1978:334)

(b.) Io trinko, io esso.
   "I drink, I eat."
   (Italian–German, Giulia, 3;0, Taeschner 1983:175)

(c.) Giulia hat ausbevuto.
   Giulia has everything-drunk
   "Giulia has drunk everything."
   (Italian–German, Lisa, 2;4-3;0, Taeschner 1983:131)
(d) lo ho gevinto.
   I have won
   "I won."
   (Italian–German, Lisa, 2;8, Taeschner 1983:131)

In (8a) and (8b) an English/German verbal root is combined with Spanish/
Italian inflection. (8c) is an example of the combination of a German verb
particle with an Italian past participle. (8d) shows the combination of the
German past participle prefix with an Italian past participle form.

With respect to the validity of The Equivalence Constraint, the same
doubts are in order. McClure (1981) reports the same problematic data
for Spanish–English bilingual children between the ages of three and
fifteen as Di Sciuillo et al. (1986) report for adults – switching is allowed
within noun phrases although the two languages have different orders
for adjectives and nouns, as illustrated in the examples in (9) (see also
Taeschner 1983:95; Redlinger and Park 1980:346; Paradis et al. 2000:255,
English–French).

(9) (a) Yo tengo un brown perro
   "I have a brown dog."
   (Spanish–English, age unclear, McClure 1981:88)
(b) Ich hat trovato un schwarz capello
    "I have found a black hat."
   (Italian–German, Giulia, 2;9, Taeschner 1983:170)
(c) pour l’auto rot
    for the car red
    "for the red car"
   (French–German, Marc, period 3, 2;10,23–3;0,4,
     Redlinger and Park 1980:346)
(d) L’auto est pas cassé, l’auto grün
    the car is not broken, the car green
    "The car is not broken, the green car."
   (French–German, Marc, 3, 2;10,23–3;0,4,
    Redlinger and Park 1980:346)
(e) my rose bat
    "my pink bat"
   (English–French, Olivier, 2;10, Paradis et al. 2000:255)

Another switch point that is not predicted by The Equivalence
Constraint but attested in child data is between the object and the
verb in OV and VO language pairs. Switching should be prohibited between
the verb and the object within language pairs like German–Italian.
However, as illustrated in (10), where German would require a verb-final
structure, the Italian verb is preposed to the German object (see also

(10) Mami Giulia will lavare die hände.
    Mummy Giulia wants to-wash the hands
    "Mummy Giulia wants to wash her hands."
   (Italian–German, Giulia, 2;8, Taeschner 1983:95)

In sum, data from research on child language mixing, as with adult CS,
have provided counter-examples to the structural constraints proposed to
account for restrictions on CS. However, there is another way to deal
especially with the problem that children violate CS constraints, namely
to allow that “The structure of code-switched utterances undergoes develop-
mental change from the immature to the mature bilingual speaker
(Paradis et al. 2000:246).” In essence, the idea is that the constraints hold
in adult language but they are not activated from the beginning of lan-
guage acquisition; the bilingual child has to acquire them. Within this
approach, the term code-mixing has been introduced in order to cover the
use of utterances with elements from language A and language B before
the developmental shift in structural properties of mixed utterances from
a non-adult to an adult-like system of CS. One example is Vihman’s study
(1985) of the mixed utterances of an Estonian–English bilingual child. She
finds that the most prevalent category in mixed utterances during early ages
(before 2;0) are function words, not nouns and verbs. Later in develop-
ment, from age 2;8 onwards, mixed categories are lexical, i.e. nouns and
verbs (Vihman 1998). The same result is reported in Meisel (1994) for
German–French bilingual children. However, Lanza (1997) observes the
trend that function words figure more frequently in mixed utterances than
content words only in some children, and the opposite pattern is apparent
in others. Nicoladis and Genesee (1997) also underline the individual
aspect of prevalence of mixed categories among bilingual children.
A further problem, discussed in Meisel (1994), is the definition of the
category function word. Some authors, like Vihman, subsume under this
category elements like yes and no. Although it is clear that these elements
are not nouns or verbs, they do not figure in grammatical relations
and therefore are peripheral to syntax in a strict sense.

The importance of individual differences with respect to the violation
of The Free Morpheme Constraint and The Equivalence Constraint is pointed
out by Vihman. The comparison of two Estonian–English bilingual chil-
dren shows that these CS constraints are still being violated at the age of
seven years in one of the children, whereas the other child behaves in an
adult-like way by the age of three. Although control of language choice
can increase with age (but see Cantone and Müller 2005 for the view that
language choice is related to readiness to speak the language, not to age),
these findings are in line with the study by Nicoladis and Genesee (1997),
who convincingly unravel individual differences in code-mixing. Together
with the criticism of the CS constraints applied to adult switching, the
discussion of language acquisition data indicates that it is not completely
implausible to question the existence of constraints particular to CS altogether.

12.3.2 Structural constraints on language mixing in bilingual children

Language acquisition researchers have also tested the structural CS constraints outlined in §12.2.2 against child language corpora. The general result is that children violate such constraints. The examples in (11) are violations of The Government Constraint (11a-d) and The Functional Head Constraint (11e-h), taken from Veh’s (1990) study of German–French bilingual children and from Cantone’s (2007) investigation of German–Italian bilingual children.

(11) (a.) CS between verb and complement

veck nounours un peu
wakes-up teddy a bit
"[The puppet] wakes up the Teddy a little bit."
(Ivar, 2/4,9, Veh 1990:Appendix p. 18)

(b.) CS between verb and complement;

je cherche mein hammer
"I look for my hammer."
(Ivar, 3/2,14, Veh 1990:Appendix p. 25)

(c.) CS between verb and complement

ho fatto zimtsterne
have made cinnamon-stars
"I made cinnamon-stars (= cookies)."
(Carlotta, 4/6,8, Cantone 2007:175)

(d.) CS between verb and complement

io ti dò fünzig mark
I you give fifty marks
"I give you fifty marks."
(Lukas, 2/11,27, Cantone 2007:175)

(e.) CS between INFL and VP

et puis Patti a sein arm gebrochen
"... and then Patti has his arm broken."
(Annika, 3/7,13, Veh 1990:109)

(f.) CS between NEG and VP

ich kann nicht attraper baguette
I can not catch stick
"I can’t catch it with the stick."
(Ivar, 2/4,9, Veh 1990:Appendix p. 17)

(g.) CS between INFL and VP

noi abbiamo gewonnen
“We have won.”
(Aurelio, 3/8,13, Cantone 2007:178)

(h.) CS between C and IP

hai visto che gelat leicht
have seen that goes easy
"Have you seen that it goes easy?"
(Lukas, 3/4,25, Cantone 2007:191)

The existence of such examples casts doubt on the validity of the structural CS constraints. As pointed out earlier, not all language acquisition researchers interpret the data in (11) as counter-examples to the constraints, at least when they appear early in development (which is, however, not the case for all the examples in 11).

Meisel (1994) investigates CS in two bilingual German–French children in order to examine the validity of The Government Constraint during the age of 1:6 to 3:0. He concludes that the children adhere to The Government Constraint in a modified version, but that its application (and that of other structural constraints) is irrelevant at the early stages of grammatical development since the necessary ingredients of the constraints (functional categories for example) have not evolved yet. Trivially, constraints can only hold if the syntactic configuration in which the constraint applies is activated in child grammar. In particular, Meisel (1994) formulates The Grammatical Deficiency Hypothesis, which assumes that there is a stage in language development in which the child’s word combinations are not constrained by principles of grammar, and thus language mixing at this stage is not constrained by structural principles either. The proto-syntactic stage correlates with the stage in language acquisition characterized by the absence of functional categories. The plausibility of this approach relies heavily on two assumptions: (1) absence of principles of grammar during the early stages and (2) consistent use of grammatical morphemes signals the presence of functional categories, hence the activation of principles of grammar.

Paradis et al. (2000) test French–English bilingual children’s adherence to the structural constraints on intra-sentential code-mixing and come to the conclusion that children violate structural constraints rarely during the early stage of language development, ranging from 0% to 9.7%. Furthermore, there are no discernible changes over time. “Thus, taken together, these patterns are not consistent with an across-the-board qualitative shift from no sensitivity to structural constraints to a stage where code-mixing adheres to structural constraints (Paradis et al. 2000:259).” Specifically, the children in the Paradis et al. study show evidence of the structural CS constraints before sufficient use of INFL-related morphology occurs in both languages, which is indicative of a view shared by many acquisitionists, namely that syntactic knowledge associated with INFL can be apparent before use of morphemes marking tense and agreement. We may thus conclude that the language acquisition studies can be interpreted as supporting evidence for the view in adult CS that the validity of the structural constraints is seriously in doubt.