



**UNIVERSITY OF
CAMBRIDGE**

**A Linguistic Analysis of Event Conceptualisation Processes
in First and Second Language Discourse**

Evidence for Language-specificity in the Temporal Discourse Organisation
of Basic and Advanced Czech and Hungarian Learners of English

Norbert Vanek

Christ's College, Cambridge

September 2012

Department of Theoretical and Applied Linguistics

Faculty of Modern and Medieval Languages

University of Cambridge

Cambridge, United Kingdom

This dissertation is submitted for the degree of Doctor of Philosophy

Preface

The following work was carried out at the Department of Theoretical and Applied Linguistics, University of Cambridge, under the supervision of Dr Henriëtte Hendriks.

I hereby declare that this dissertation has not been submitted, in whole or in part, for any other degree, diploma or qualification at any other University.

This dissertation is the result of my own work and includes nothing which is the outcome of work done in collaboration except where specifically indicated in the text.

The length of this dissertation does not exceed the 80 000 word limit set by the Degree Committee of the Faculty of Modern and Medieval Languages.

Acknowledgements

I am sincerely grateful to the members of my Research Committee, namely to my PhD supervisor Henriëtte Hendriks and to my PhD advisor Teresa Parodi, who gave generously of their time to read and re-read earlier drafts of my dissertation, and whose insights and suggestions inspired a great number of improvements and were extremely helpful in navigating out of many cul-de-sacs. I would also like to express my deep gratitude to Kelvin Bowkett, Nick Gay and Merlyn Stringer at Christ's College for their very constructive advice, encouragement and support.

Shaping the earlier versions of this thesis also benefited enormously from the professional scrutiny of many members of the Structure of Learner Varieties research network, especially Christiane von Stutterheim, Wolfgang Klein, Monique Lambert, Colette Noyau, Urszula Paprocka, Barbara Schmiedtová and Monique Flecken; and also of members of the Language and Cognition group at the Max Planck Institute for Psycholinguistics, including Günter Senft and Stephen Levinson, who provided invaluable comments that helped to sharpen the focus and to restrain from unfortunate digressions.

On the Czech end, I owe many thanks to Radmila Procházková at the International House Prague and to Paul Hilder at the British Council Prague for making it possible to collect learner data at the language centres they direct. I am also very grateful to my friends and proofreaders Jana Šulcová, Jiří Sklenář and Radka Šmahelová for their help and effort during the experiments and with the

Czech data transcripts. Thanks also to Mata for helping with participant recruitment and assistance with graphical matters.

On the Hungarian end, appreciation is due to Anna Sikó and Stuart Willats at the International House Budapest and also to Attila Boross and Ildikó Tóth at Katedra Budapest for facilitating data collection from Hungarian learners. I am also indebted to Anna Pikó and Erzsébet Kulcsár for proofreading my Hungarian transcripts, helping me with disambiguation at the stage of coding, and saving me from copious blunders.

I would also like to thank all good friends, among them to Péter, Sylvia, Balázs, Melissa, Javi, Steph, Ivan, Diem-Hang, Helen, Jim, Jiří, Elaine, Calbert, Hae-Sung, Anthony, Ena, Bastien, Petra, Niku, Adika, Ebi, Iveta, Filip, Theoni, Dimitris, Eleni, Jodie, Duane, Niamh, Ped, Francis, Jana, Lazzo, Joe, Kati, Goldie, Vero, Lucia, Andrej, Inga, Robbie, Jenny, Clare, Sungha, Zazu, Nandini, Umang, Nausica, Napoleon, Rebecca and others, whose interest in my work and in the ‘strictly-one-drink’ pub outings never failed to fuel my motivation and had a massively recharging effect. Special thanks to wonderful Joolie for being an immense source of love, support, and inspiration, for checking my English, and for always being there for me.

Most of all, I am grateful to Marika, Gyuszi and Petec, whose support and help is immeasurable, and without whom this dissertation would never have been possible.

Author's Note

Financial support

The research presented in this dissertation was kindly supported by the A. H. Lloyd Fund and the Levy-Plumb Fund at Christ's College Cambridge, the Cambridge European Trust as well as the Research Centre for English and Applied Linguistics at the University of Cambridge.

Synopsis

This dissertation examines conceptual reorganisation in second language learners by comparing event construal patterns in first language (L1) and second language (L2) discourse. Previous research suggests that the way grammatical aspect is encoded in the speaker's L1 can influence how events are conceptualised in their L2 (von Stutterheim & Carroll 2006). Given the lack of consensus regarding partial (Bylund 2011a) versus zero (Schmiedtová et al. 2011) susceptibility to reorganising L1 event construal patterns in L2, the present work contributes to this resonant discussion by investigating the extent to which language-specific grammatical aspectual operators influence message planning (Levelt 1989, Habel & Tappe 1999) in three typologically diverse L1 groups and four L2 groups.

More specifically, film verbalisations and picture descriptions by Czech, Hungarian and English native speakers, and Czech and Hungarian learners of English at basic and advanced levels were elicited to test (a) whether crosslinguistic event construal contrasts are attributable to the differences in the grammatical means that are available for encoding temporality in a particular L1; (b) whether learners' degree of susceptibility to reorganising L1 principles for temporal reference in the target language changes as a function of L2 proficiency; and (c) whether event construal patterns across groups remain unaffected by changes of modality (speech vs. writing) and task type. The main novel feature lies in testing L2 learners' ability to adjust L1 thinking-for-speaking principles (Slobin 1996) in the target language through a systematic scrutiny of four conceptualisation processes abreast (i.e. event segmentation, information selection, temporal structuring and linearization).

Table of contents

Preface	ii
Acknowledgements	iii
Author's Note	v
Synopsis	vi
Table of Contents	vii
List of Tables	xiii
List of Figures	xiv
List of Abbreviations	xvii
1. General introduction	1
1.1 Rationale for examining temporal reference in L1 and L2 discourse	1
1.2 Scope and organisation of the dissertation	7
2. Time in language: theoretical underpinnings	11
2.1 Introduction	11
2.2 Key theoretical concepts	12
2.2.1 Event conceptualisation: processes and subprocesses	12
2.2.2 Linguistic relativity and SLA: thinking for speaking	17
2.2.3 Ultimate attainment in second language acquisition	22
2.2.4 Conceptual transfer and crosslinguistic influence	26
2.2.5 The grammatical aspect approach	27
2.3 Examining temporal reference across languages	30
2.3.1 The Basic Time Structure	30
2.3.2 Tense and the BTS versus the traditional accounts	34
2.3.3 Grammatical aspect and Aktionsart examined via BTS	36
2.3.4 Temporal adverbials and their analysis	41
2.3.5 Discourse principles as an integral part of temporal reference	43
2.4 Approaches to the study of temporal reference in a second language	44
2.4.1 Morpheme order studies and the Natural Order hypothesis	45

2.4.2	Form-to-function studies, the Aspect and Discourse hypotheses	47
2.4.3	Function-to-form studies and the Quaestio model	52
2.5	Conclusion	56
3.	Temporal reference in the source and the target languages	57
3.1	Introduction	57
3.2	Typological features of explicit temporal reference in Czech	60
3.2.1	Czech aspect	61
3.2.2	Interaction of tense and aspect in Czech	66
3.2.3	Czech temporal adverbials	68
3.3	Typological features of explicit temporal reference in Hungarian	70
3.3.1	Hungarian aspect	71
3.3.2	Interaction of tense and aspect in Hungarian	74
3.3.3	Hungarian temporal adverbials	76
3.4	Typological features of explicit temporal reference in English	77
3.4.1	English aspect	78
3.4.2	Interaction of tense and aspect in English	81
3.5	Conclusion	82
4.	Informant characteristics, data elicitation material, procedure	84
4.1	Introduction	84
4.2	Informant characteristics	85
4.2.1	Native speakers	85
4.2.2	Advanced level learners	86
4.2.3	Basic level learners	87
4.3	Communicative tasks, data elicitation material and procedure	88
4.3.1	Elicitation material for task one: film retelling	89
4.3.2	Elicitation material for task two: picture description	90
4.3.3	Experimental procedure	91
4.4	The data coding system	93
4.4.1	Segmentation: central notions and coding	95

4.4.2	Selection: central notions and coding	98
4.4.3	Structuring: central notions and coding	100
4.4.4	Linearization: central notions and coding	103
4.5	Conclusion	108
5.	Segmentation of contextualised events in L1 and L2 discourse	110
5.1	Introduction	110
5.1.1	Examining crosslinguistic event segmentation contrasts	110
5.1.2	Studies on event segmentation in learner varieties	111
5.1.3	Research questions and hypotheses	114
5.2	Task One	115
5.2.1	Segmentation in film retelling across the source languages	116
5.2.2	Segmentation in film retellings in advanced and basic L2	117
5.2.3	Results from qualitative analyses	119
5.3	Task Two	125
5.3.1	Segmentation in picture descriptions in the source languages	125
5.3.2	Segmentation in picture descriptions across learner varieties	127
5.3.3	Results from qualitative analyses	129
5.4	Discussion	133
5.4.1	Language-specific patterns in event segmentation	134
5.4.2	Continued reliance on L1-specific patterns in L2	137
5.4.3	Segmentation patterns and task type	139
5.5	Conclusion	140
6.	Selection of endpoints in goal-oriented motion events	143
6.1	Introduction	143
6.1.1	Endpoint selection contrasts across first languages	146
6.1.2	Previous research on selecting endpoints in learner discourse	148
6.1.3	Research questions and hypotheses	150
6.2	Task One	151
6.2.1	Endpoint selection in film retellings in the source languages	152

6.2.2	Endpoint selection in film retellings in advanced and basic L2	153
6.2.3	Assessing the relationship between selection and segmentation	155
6.2.4	Results from qualitative analyses	156
6.3	Task Two	161
6.3.1	Endpoint selection in L1 picture descriptions	162
6.3.2	Endpoint selection in L2 picture descriptions	163
6.3.3	Relations between selection and segmentation	164
6.3.4	L1 and L2 results from qualitative analyses	165
6.4	Discussion	169
6.4.1	Holistic vs. phasal event perspectivation and endpoints in L1s	170
6.4.2	Endpoint selection principles in L2 discourse	173
6.4.3	Endpoint selection and task type	175
6.5	Conclusion	176
7.	Temporal information structuring in L1 and L2 varieties	178
7.1	Introduction	178
7.1.1	Temporal information structuring contrasts in first languages	178
7.1.2	Previous research on temporal structuring in learner varieties	180
7.1.3	Research questions and hypotheses	183
7.2	Task One	185
7.2.1	Temporal structuring in film retellings in the source languages	185
7.2.2	Temporal structuring in L2 film retellings	188
7.2.3	Results from qualitative analyses	191
7.3	Task Two	198
7.3.1	Temporal structuring in L1 picture descriptions	198
7.3.2	Temporal structuring in L2 picture descriptions	201
7.3.3	L1 and L2 results from qualitative analyses	204
7.4	Discussion	210
7.4.1	Deictic vs. anaphoric event linkage in L1 discourse	210
7.4.2	Blending temporal reference frames in L2 discourse	213
7.4.3	Temporal structuring and task type	215

7.5	Conclusion	216
8.	Linearization of events in first and second language	219
8.1	Introduction	219
8.1.1	Examining linearization in L1 production and comprehension	222
8.1.2	Previous research on event ordering in L2 learner production	223
8.1.3	Research questions and hypotheses	226
8.2	Task One	227
8.2.1	Linearization in film retelling across the source languages	228
8.2.2	Linearization in film retellings in learner varieties	231
8.2.3	Results from qualitative analyses	237
8.3	Task Two	242
8.3.1	Linearization in picture descriptions in the source languages	242
8.3.2	Linearization in picture descriptions across learner varieties	245
8.3.3	Results from qualitative analyses	249
8.4	Discussion	254
8.4.1	Language-specific patterns in event linearization	254
8.4.2	Conformity of L2 production to L1 event ordering patterns	257
8.4.3	Sensitivity of linearization patterns to task type	258
8.5	Conclusion	259
9.	General discussion and conclusions	261
9.1	Summary and discussion of the results	261
9.1.1	Event conceptualisation contrasts across L1s	261
9.1.2	Event conceptualisation processes in advanced L2	266
9.1.3	Event conceptualisation processes in basic L2	271
9.2	Relating results to the adopted theoretical framework	275
9.2.1	The language production model revised	276
9.2.2	Thinking for speaking and conceptual transfer	278
9.2.3	BTS, grammatical aspect and ultimate attainment in SLA	279
9.3	Limitations and avenues for further research	282

9.3.1 Task type effects	282
9.3.2 Individual variation	283
9.3.3 Linguistic expression and cognitive processes	284
9.4 General conclusions	285
Appendices	
Appendix 1 Film retelling task	288
Appendix 2 Picture story task	291
Appendix 3 Participant information sheet and consent form	292
Appendix 4 Post-test: qualitative judgement tasks	296
Appendix 5 Examples of raw and coded files	299
Bibliography	303

List of Tables

Chapter 3

Table 3.1 Overt marking of grammatical aspect in Czech, English and Hungarian

Table 3.2 Combinations of tense and aspect in Czech

Table 3.3 Categorisation of temporal adverbials in Hungarian based on form and function

Table 3.4 Grammatical expression of aspect in English

Table 3.5 Interaction of English tenses with perfect aspect

Chapter 5

Table 5.1 Comparison of GIs for spoken and written film verbalisation per native speaker group

Table 5.2 GIs and mean percentages of foregrounded propositions in film retellings of L1 and L2 groups

Table 5.3 Comparison of GIs for spoken and written picture description per native speaker group

Table 5.4 GIs and mean percentages of foregrounded propositions in written picture descriptions of L1 and L2 groups

Chapter 6

Table 6.1 Pearson correlations between the median number of GMEs and the expressed endpoints in L1 and L2 film retellings

Table 6.2 Pearson correlations between the median number of GMEs and the expressed endpoints in written L1 and L2 descriptions

Chapter 8

Table 8.1 Pearson correlation coefficients between condensation degrees and frequencies of digressions from chronological order

List of Figures

Chapter 2

Figure 2.1 Processing components in generating fluent speech

Figure 2.2 Processes of event conceptualization in generating preverbal messages

Figure 2.3 Language pairs in the ESF project

Chapter 3

Figure 3.1 Imperfective aspect expressed as a relation between TT and TSit

Figure 3.2 Perfective aspect expressed as a relation between TT and TSit

Figure 3.3 Perfect aspect expressed as a relation between TT and TSit

Figure 3.4 Prospective aspect expressed as a relation between TT and TSit

Chapter 6

Figure 6.1 Median percentual values of endpoint frequencies in GMEs for spoken and written native speaker film verbalisations

Figure 6.2 Median percentual values of endpoint frequencies in GMEs for film retellings in learner groups and the English L1 group

Figure 6.3 Median percentual values of endpoint frequencies in GMEs for spoken and written native speaker picture descriptions

Figure 6.4 Median percentual values of endpoint frequencies in GMEs for written picture descriptions in learner groups and in the ENL1 group

Chapter 7

Figure 7.1 Median CON degrees and T-marks per utterance for spoken and written native speaker film verbalisations

Figure 7.2 Median CON degrees and T-marks per utterance for film retellings in learner groups and the English L1 group

Figure 7.3 Median CON degrees and T-marks per utterance for written and spoken picture descriptions

Figure 7.4 Median CON degrees and T-marks per utterance for written picture descriptions in learner groups and the English L1 group

Chapter 8

Figure 8.1 Mean scores of NOCs in spoken and written native speaker film verbalisations

Figure 8.2 Median percentages of forms showing the distribution of NOCs in the film retellings of the three native speaker groups

Figure 8.3 Mean scores of NOCs in film retellings of learner groups and the English L1 group

Figure 8.4 Median percentages of forms showing the distribution of NOCs in the film retellings of the two advanced learner groups

Figure 8.5 Median percentages of forms showing the distribution of NOCs in the film retellings of the two basic level learner groups

Figure 8.6 Mean scores of NOCs in spoken and written native speaker picture descriptions

Figure 8.7 Median percentages of forms showing the distribution of NOCs in written picture descriptions of the three native speaker groups

Figure 8.8 Mean scores of NOCs in picture descriptions of learner groups and the English L1 group

Figure 8.9 Median percentages of forms showing the distribution of NOCs in written picture descriptions of the two advanced learner groups

Figure 8.10 Median percentages of forms showing the distribution of NOCs in the written descriptions of the two basic level learner groups

Chapter 9

Figure 9.1 Temporal linkage based on anaphoric shifts

Figure 9.2 Temporal linkage based on deictic anchoring

Figure 9.3 Processes of event conceptualization in the revised language production model

List of Abbreviations

AOA	age of onset of acquisition
BV	basic variety
BTS	basic time structure
CEFR	Common European Framework of Reference for Languages
CON	condensation
CPH	critical period hypothesis
CTH	conceptual transfer hypothesis
CZL1	Czech as a first language
ENB1CZ	basic level English production of Czech native speakers
ENB1HU	basic level English production of Hungarian native speakers
ENC2CZ	advanced level English production of Czech native speakers
ENC2HU	advanced level English production of Hungarian native speakers
ENL1	English as a first language
ERP	event-related potential
ESOL	English for speakers of other languages
GI	granularity index
GME	goal-oriented motion event
GRA	granularity
HUL1	Hungarian as a first language
Imperf	imperfective
LR	linguistic relativity
L1	first language
L2	second language
MLU	mean length of utterance
NOC	non-chronological order construction

Perf	perfective
PNO	principle of natural order
SLA	second language acquisition
TADV	temporal adverbial
TL	target language
T-marks	temporal adverbials and temporal connectives
TSit	time of situation
TT	topic time
TU	time of utterance

Chapter 1

General introduction

1.1 Rationale for examining temporal reference in L1 and L2 discourse

Explorations on reference to time across languages have helped to reach a wide scholarly consensus that preferences in how native speakers organise information for expression are clearly related to grammaticalised form-function connections available in a language (Carroll & von Steutterheim 2003, Gumperz & Levinson 1996, Klein 2009b, Slobin 1996). Speakers seem naturally predisposed to be sensitive to the form-function connections that their language grammars code obligatorily. This view is driven by the assumption that our mother tongue(s) train us to pay attention to different aspects of experience because of routine marking of certain contrasts (e.g. compulsory tense marking in English; aspect marking in Russian etc.). By the same token, the absence of overt marking of specific contrasts in a given language can lead its speakers to show lower sensitivity to particular aspects of experience. It is important to emphasise that typological similarity of languages does not automatically imply identical performance of their speakers. For instance, film retellings by speakers of Czech (an aspect language) clearly showed that they conceptualise events much like speakers of German (a non-aspect language) rather than showing resemblance to preferences

of speakers of Russian (Schmiedtová & Sahonenko 2008). The context of such variation invites further crosslinguistic research on temporal reference to focus not on bipolar aspectual contrasts and categorical differences, but on articulating hypotheses that incorporate the notions of perceptual salience and degrees of regularity in aspect marking to investigate why exactly speakers favour particular linguistic choices over others when they verbalise events.

If we assume that second language acquisition is the cognitive process of establishing new form-function connections (Ellis 2008), then second language learners during the acquisition process and up to a native-like level face two formidable challenges. Firstly, they have to decipher how particular grammatical forms are typically used in TL information organisation, and then they need to integrate this knowledge into their own strategies for generating target-like verbal messages in the L2. It follows that the more the learner's source and target languages differ typologically, the more complex these challenges can become. As for deciphering native-like principles, this process may be one of the most difficult parts in learning a foreign language since form-function relations are convoluted and rarely conform to a straightforward one-to-one mapping pattern.

But what are the actual form-function pairing problems which allow us to claim that a particular discourse organisation principle is a significant factor for achieving compatibility with the target language? In the domain of temporality, learners from a typologically different L1 need to calibrate their use of grammatical forms on many levels in order to get in line with the requirements of the L2, including the adequate use of forms to segment, select, structure as well as

to order information in discourse as native speakers do. Crosslinguistic evidence from numerous studies points to the fact that although L2 learners are able to acquire the forms of their learned languages, they do not employ TL-specific principles and related clusters of form-function relationships consistently. There are clear signals that also at very advanced stages of L2 acquisition some grammatical means used in the target language remain bound to discourse organisation principles of the source language, which results in inadequacies in L2 production. In the words of Noyau *et al.* (2005:176), *foreign discourse accent* lingers on, reflecting the conceptualisation tendencies of the mother tongue.

Conceptual reorganisation, i.e. changes in the L2 learner's information organisation preferences (or frames of reference) that result in target-like performance, features as a vibrant topic in current SLA research. Active interest in this area is all the more propelled by the fact that related studies yielded discrepant outcomes. Evidence was documented both in favour of reorganisation in the direction of the L2 (Athanasopoulos & Kasai 2008; Cadierno 2004, Hohenstein *et al.* 2006) as well as against it (Carroll & Lambert 2003; Hendriks *et al.* 2008; Schmiedtová *et al.* 2011). Contrastive findings also emerged within individual studies examining event conceptualisation of formally proficient L2 speakers. For instance, von Stutterheim (2003) reported that L1 German learners of L2 English managed to adjust to target-like endpoint selection patterns whereas L1 English learners of L2 German did not. The suggested explanation reads that the key event construal feature in English (ongoingness marking) is formally encoded in the aspectual system, perceptually more salient, and hence less challenging to acquire than the key event construal feature in German (holistic

perspective with emphasis on endpoints) which is not grammaticalised. However, Bylund (2011a) found that learners with an L1 that has grammatical ongoingness marking as the key event construal feature (Spanish) are indeed able to successfully acquire a holistic perspective in L2 (Swedish) and to structure temporal information according to target-like principles. The same study also demonstrated that whilst Spanish learners succeeded on one level of conceptual reorganisation (i.e. in structuring events as Swedish natives), on another level (segmentation) they remained L1-like and significantly digressed from the target pattern. Given such heterogeneity of findings, the next steps in this line of research should not only look at whether typological aspectual properties of L1 do or do not influence particular event conceptualisation processes in L2, but to carefully examine and define the exact nature of how different degrees of regularity in L1 ongoingness marking in the aspectual system are reflected in SLA trajectories of specific learner groups. This type of research necessitates analyses of language produced by learners from at least two typologically distinct source languages at two different levels of proficiency. With such design it is possible to generate lists of form-function pairings representative for specific levels of L2 proficiency, to link them to relevant L1 systems, and also to see whether choices made during particular event conceptualisation processes change as a function of similarity in L1-L2 ongoingness marking. Another aim of this dissertation is to contribute to SLA research on understudied L1-L2 pairs, as learners with Czech and Hungarian as L1s have been almost completely absent from the vast body of literature on adult learners acquiring temporal markings in English L2 (except Schmiedtová 2004 and Schmiedtová *et al.* 2011).

In order to shed light on what information organisational principles guide learners' temporal reference at various stages of L2 development, discourse is taken as the primary level of analysis. Focus on discourse has three sources of motivation. Firstly, looking beyond sentences and integrating contextual information is vital for making felicitous inferences (Gumperz & Levinson 1996), especially given that even simple events can spread across a number of sentences. Secondly, strong focus on tense and aspect since antiquity has left discourse principles much less noticed (Klein 2009b) leading to an imbalanced study of temporal reference. Thirdly, traditional analyses of tense/aspect markers cannot provide good criteria for typological distinctions¹ (von Steutterheim 1991) and their potential to show how L2 learners' temporal reference develops is therefore also seriously limited.

Nevertheless, we know that discourse closely interacts both with the grammatical and the lexical levels and any sufficiently rigorous analysis of temporal reference needs to take this fact into consideration. The interaction of discourse with grammar is bidirectional: 'discourse patterns can influence the impact of structural patterns by altering the frequency of use of certain forms or by channelling them in certain directions, [and] inversely, certain structural facts may facilitate the emergence of particular uses of language in characteristic ways' (Lucy 1996:59). Characteristic ways in which discourse patterns are linked to structural patterns when referring to time, and the manifestations of such linkage

¹ The problem with analysis of mere forms for expressing temporality is insufficient because, as aptly noted by von Steutterheim (1991:385), on this level there are neither absolute universals (e.g. every language has morphological marking of aspect) nor implicational universals (e.g. if a language has an aspectual distinction for present tense it must also have an aspectual distinction for past tense) that would enable a clear-cut typological categorisation.

in English as a second language on basic and advanced levels of proficiency, together with its (in)dependence on two typologically different L1s, form the core of the present investigation.

The central research questions guiding the present investigation are:

- (a) What are the main analogies and differences in the ways in which Czech, English and Hungarian native speakers conceptualise events and organise temporal information about them in discourse? Do specific event conceptualisation patterns per L1 group interact with the formal marking of ongoingness in these languages, and if so then how exactly? Why are particular form-function mappings which speakers use to segment, select, structure and linearize events preferred over others? Are the four scrutinised conceptualisation processes separable or mutually interdependent?
- (b) What are the event segmentation, selection, structuring and linearization patterns that characterise Czech and Hungarian basic and advanced learners of English? Do L2 learners adopt target-like principles for organising temporal information in discourse or do they remain rooted in the principles typical of the corresponding L1s? How does the balance of various linguistic means for establishing and maintaining temporal coherence change with increasing proficiency? Can language distance in terms of encoding ongoingness in its aspectual system serve as a reliable predictor of how learners will digress from target-like event conceptualisation patterns?

1.2 Scope and organisation of the dissertation

This dissertation consists of nine chapters and is divided into two main parts (chapters 2-4 and chapters 5-8). Chapters 2 to 4 form the theoretical part, and serve as a basis for the empirical investigations presented in chapters 5 to 8.

Chapter 2 introduces the core concepts used for examining the expression of time across languages. Initially, it defines four conceptualisation processes that operate in the preparation of verbal messages for expression. Attention is then devoted to surveying the most resonant ideas about the influence of language-specific properties on cognition and on second language acquisition. In the next step, chapter 2 describes the adopted analytical framework, the Basic Time Structure, lists its advantages over the traditional accounts, and demonstrates how it is employed for analysing tense, grammatical aspect, Aktionsart, temporal adverbials and discourse principles. Finally, chapter 2 reviews important trends in the approaches to the study of temporal reference in second language varieties.

Chapter 3 provides an overview of linguistic devices frequently used for temporal reference in the source languages (Hungarian and Czech) and the target language (English). Rather than aiming for an exhaustive account of temporal means or trying to capture the full range of their possible configurations available in the three languages, the focus is on a crosslinguistic comparison of the ways in which particular temporal concepts are grammaticalised. This approach is used for pointing out some central differences in how the examined languages encode temporal relations, and also for identifying potential challenges for L2 learners.

Chapter 4 presents detailed information about the recruited participants, the tasks and instructions, the elicitation material, the experimental procedure, and the

coding system. Special emphasis is placed on the need for systematicity in the application of codes, the objective analysis of grammatical means in close relation with lexical and discourse means, and the balance between experimental control and ecological validity. In an attempt to meet these needs to maximum extent, identical coding categories were employed across all three languages whenever possible; two independent native speaker judges were consulted at the stage of transcription and disambiguation; and data elicitation was based on contextualized events to reflect the complexity and authenticity of real life situations.

Chapter 5 scrutinises the process of segmentation in film retellings and picture descriptions. It briefly reviews pertinent L1 and L2 studies, tests the generalisability of the claim that crosslinguistic event segmentation contrasts vary according to the codability of ongoingness in the grammar of a given L1, and uses native speaker data as a baseline for a systematic comparison with L2 segmentation patterns. Frequency counts are supplemented with qualitative analyses to see in sufficient detail if the hypothesised segmentation contrasts in L1s emerge in line with differences in aspectual systems, if the L1 principles for event decomposition undergo adjustment to target-like patterns, and if the preferences within groups are consistent across modalities and task types. This chapter also addresses the question of whether language distance (i.e. relative differences in encoding ongoingness grammatically) is a sufficiently reliable tool for predicting potential learner difficulties in the adoption of segmentation patterns typical of the L2.

Chapter 6 examines the process of event component selection. It compares how particular native speaker and learner groups tend to refer to endpoints in two

types of goal-oriented motion events: those in which the moving entity reaches the endpoint, and those in which the endpoint is not reached but is inferable from the stimulus. Quantitative analyses were conducted to see if there is a distributional contrast in endpoint selection that would correspond to differences in the formal marking of ongoingness across languages. Further questions in this chapter concern the transfer of L1 selection principles into L2, the magnitude of interaction between selection and segmentation, and the role of perceptual saliency of ongoingness marking in the approximation to target-like selection patterns.

Chapter 7 includes crosslinguistic comparisons of preferred temporal structuring techniques between the native speaker groups and the L2 learner groups. Structuring contrasts were measured via the stability of preferences to employ a particular temporal frame for event linkage. The two main examined techniques distinguish linking one event to the previous event by means of temporal shifters versus linking events to the time of utterance. As for second language production, a detailed scrutiny of L2 data sets out to reveal if learners at various proficiency levels remain rooted in the temporal frames typical of their source languages or if they manage to structure temporal information according to TL needs. Chapter 7 also addresses the question of whether learner difficulties in adopting target-like event structuring can be anticipated on the basis of L1-L2 differences in grammatical aspect and how it marks ongoingness.

Chapter 8 investigates the process of event linearization and its interaction with L1-L2 contrasts in temporal structuring. Various analyses of non-chronological order constructions in both native speaker and learner responses

were run in order to understand the nature of crosslinguistic differences in information ordering. The focus of analyses was on testing the effect of L1-specific linearization principles on L2 production, to check if persisting L1 principles lead to significant digressions from target-like performance in L2, and to verify if linearization and structuring are two interdependent or autonomous processes. The final question in chapter 8 deals with the sensitivity of linearization patterns to changes in modality and task type.

Chapter 9 synthesises the main findings from all the examined domains of analysis. A set of summaries per domain is accompanied with a discussion on what the patterns found in the discourse of native speakers, basic and advanced learners tell us about conceptual organisation in L1 and reorganisation in L2 and, in a wider context, what they reveal about the link between language structure and event cognition. The dissertation concludes with implications of the findings, their relation to the adopted theoretical framework, and suggestions for further research.

Chapter 2

Time in language: theoretical underpinnings

2.1 Introduction

Time constitutes a fundamental cognitive category for humans and there is a broad spectrum of devices to encode it in language. Repertoires and the mapping of particular forms on temporal relations and functions vary considerably across languages and so do their theoretical accounts. This section is divided into three main parts. Firstly, it defines the key theoretical concepts related to temporality and highlights their significance for the present work. In search of a better understanding of the link between thought and temporal reference in language, the skeletal concepts include four message planning processes: segmentation, selection, structuring and linearization; and four hypotheses: linguistic relativity, conceptual transfer, critical period, and grammatical aspect. The second part surveys some of the most common devices for the expression of time in natural languages and describes how they are analysed within the adopted framework, the Basic Time Structure. With immediate relevance to the languages examined, the selection of temporal devices is narrowed to (a) tense, (b) grammatical aspect, (c) lexical aspect (i.e. Aktionsart), (d) temporal adverbials, and (e) principles of discourse organisation. The third part surveys studies investigating the acquisition of these devices in a second language.

2.2 Key theoretical concepts

2.2.1 Event conceptualisation: processes and subprocesses

Natural language production requires the mind of the speaker to prepare content for expression, which involves transforming information units into a format expressible in the used language. The preparation of content for expression involves several stages of message planning. From an information processing perspective (Habel & Tappe 1999), message planning starts by transferring mental representations of states of affairs to the level of propositional representations. In the second stage, propositional representations are linguistically encoded and transformed into grammatical constructions. Grammatical forms then, subsequently, get phonologically encoded for acoustic realisation of utterances. This three-staged process describes Levelt's (1989, 1999) speech production model consisting of three interacting components (see Figure 2.1).

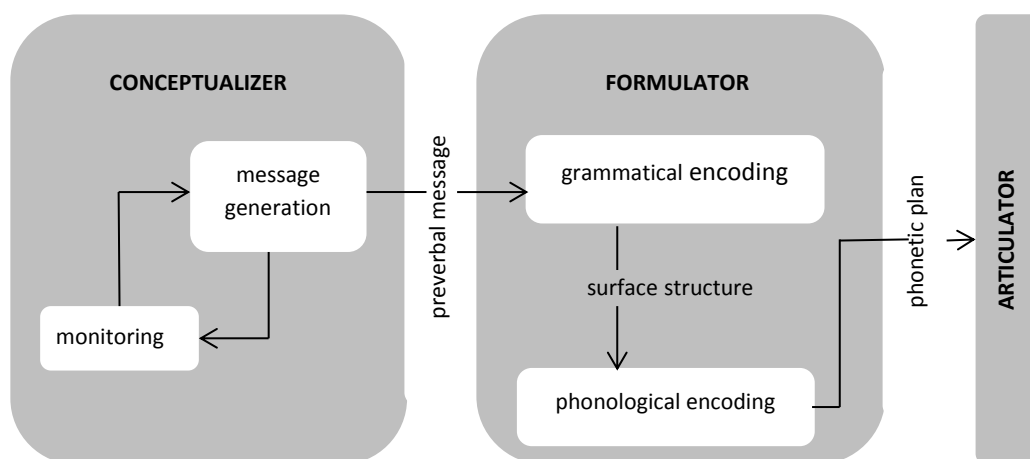


Figure 2.1 Processing components in generating fluent speech (adapted from Levelt 1989: 9)

The *conceptualiser* generates propositional conceptual structures (i.e. non-linguistic preverbal messages) from the knowledge base, the *formulator*

transforms conceptual structures into linguistic forms based on language-specific grammatical requirements, and the *articulator* undertakes the phonological encrypting. In search for a fuller grasp of the nature of the conceptualisation process, Levelt's language production model was further refined, and four subprocesses within the first stage of message generation were proposed (Carroll & von Stutterheim 2003, Habel & Tappe 1999). These subprocesses are segmentation, selection, structuring and linearization. Segmentation and selection can be characterised as macroplanning processes (the level of 'what to say') while structuring and linearization represent microplanning processes (the level of 'how to say it'). It is important to note that the four conceptualisation processes represent different layers of message planning (Figure 2.2) and therefore their contribution to organising information for expression should be analysed individually.

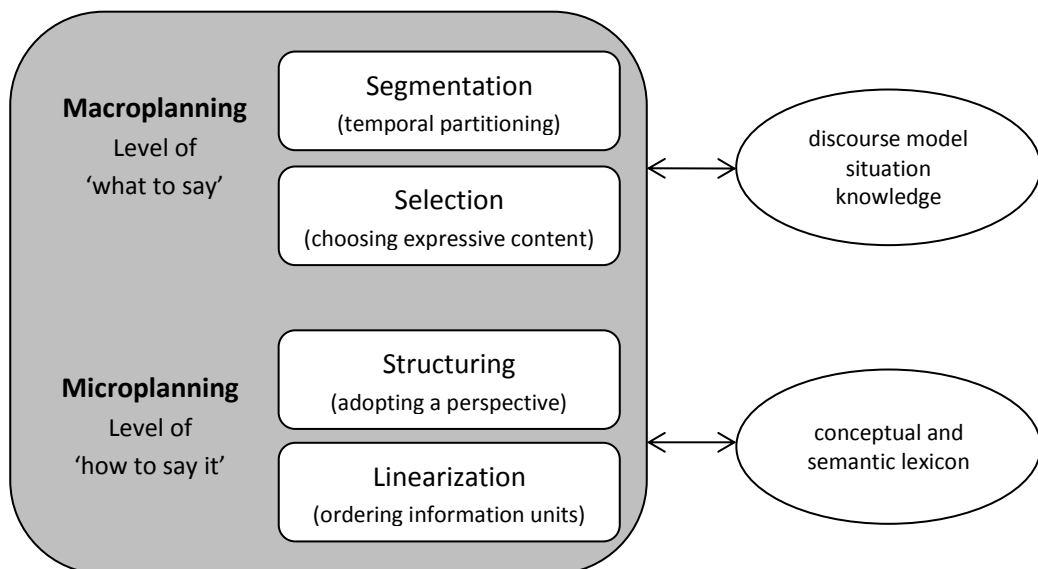


Figure 2.2 Processes of event conceptualization involved in generating preverbal messages. Boxes represent processing components, ellipses symbolise knowledge stores.

Segmentation is the process of temporal partitioning of information (Noyau *et al.* 2005). It displays the way complex situations are divided into smaller units such as micro-events, processes or states. The speaker's/writer's options for event segmentation in discourse can be located on a continuum between low granularity [-GRA], i.e. presenting a single macro-event or a few events with merged components, and high granularity [+GRA], i.e. a fine-grained resolution in the form of event phases or a series of micro-events. For instance, a situation represented by the utterance *she serves tea* [-GRA] can be expressed as a fine-grained sequence of subevents such as *she pours water into a kettle, turns the kettle on, puts a tea bag into a cup, fills the cup with hot water, places the cup on a tray, walks to the guests and puts the tray down in front of them* [+GRA]. One possibility for quantifying the level of granularity is to calculate the number of partitions per discourse segment or per discourse as a whole.

Selection means the process of choosing information units for verbalisation together with the components which represent them. The components include times, spaces, entities, states and actions (Levelt 1999). For an illustration, let us consider the component of endpoint in verbalising goal-oriented motion events. When asked to retell a video showing a goal-oriented motion event in which the moving entities do not reach an endpoint (Flecken 2010; Schmiedtová & Sahonenko 2008; von Stutterheim & Carroll 2006), the speaker has two options with respect to information selection. One option is to view the event by 'zooming in' on what is going on at the time of utterance and omit mentioning a possible endpoint. Another option is to take a holistic perspective on the event and include a likely endpoint for expression.

Structuring involves adopting a certain perspective, which is reflected in anchoring information units within a particular referential frame (e.g. temporal and spatial anchor), assigning information status (i.e. topic vs. focus) as well as ensuring compatibility of units with the chosen predicate type (e.g. *sell* vs. *buy* alternative). In terms of temporal structuring, one of the choices for the speaker is between an anaphoric vs. deictic referential anchor (Carroll & von Steutterheim, 2003; von Steutterheim & Lambert 2005). Each of these anchors serves to establish and maintain temporal coherence in a specific way. An anaphoric anchor is characterised by frequent reference to endpoints and by temporal shifts from one (sub)event to another, typically via positional time adverbials (e.g. *the postman pulls up at the house, then he takes his bag out of the car and then walks to the door*). On the other hand, a deictic anchor entails the presentation of events as ongoing, and in larger chunks of discourse it is typically exhibited by keeping event times identical with the utterance time (e.g. *the postman is driving to the house, he is ringing the doorbell and handing the parcel over*). Structuring temporal information for the expression of events also requires the speaker to decide on how condensed the presented information will be. Condensation constitutes an element in the process of structuring which reflects the degree of hierarchical organisation of (sub)events (Noyau *et al.* 2005). Options for the speaker lie between high condensation [+CON] (typical for multi-propositional utterances and hypotaxis) and low condensation (characteristically mono-propositional utterances or simple paratactic linkage).

Linearisation is characterised as the process of ordering information units for expression, and thus invoking particular inferences in the addressee's mind

(Levelt 1989). One of the linearization possibilities for the speaker is to communicate situations in a sequence that copies the chronological order of their occurrence. This is an effective ordering technique thanks to its easier processing in comparison with constructions where chronology is not preserved (Habets *et al.* 2008). Digressions from chronology serve to influence listeners' interpretations (e.g. *she learned five languages and became a tour guide* versus *she became a tour guide and learned five languages*). Whichever technique speakers choose, they face at least three basic constraints shaping the linearization process: (a) ease of processing, (b) culture-dependent mutual knowledge between interlocutors, and (c) language-specificity of grammar (Levelt 1989). Cooperative speakers need to balance the level of structural complexity of their expressions so that listeners are able to retrieve the intended information. Firstly, Levelt (1981) suggests that facilitation of information processing can be achieved by adherence to three linearization principles: the *principle of connectivity* (introduce new concepts by virtue of their communicatively relevant relations to the most recent concept expressed); the *stack principle* (keep track of dominantly organised structures by always returning to the top item on the stack after reaching the end of a connected string); and the *minimal load principle* (order alternative continuations in such a way that the resulting memory load for return addressees is minimal). Secondly, if speakers use mutually known stereotypical orders as a linearization strategy, listeners will have an easier task to infer an informational structure from the discourse (Levelt 1982:282). Thirdly, to produce a coherent and lucid piece of discourse, speakers' information ordering needs to conform to language-specific rules of grammar. There is a vast array of grammatical properties that may

influence how speakers linearize messages, such as concatenation, tail-head linkage, multi-verb constructions and word order rules (Senft 2010). This dissertation closely engages with one grammatical property, i.e. grammatical aspect and its interrelation with event conceptualisation processes.

2.2.2 *Linguistic relativity and SLA: thinking for speaking*

The central idea of linguistic relativity (LR) is that language influences the way we think and how we categorise experience. If we accept that languages predispose their speakers to think in specific ways, two questions immediately arise for SLA: (a) what is the extent to which a speaker's first language influences the acquisition of a second language; and (b) how much is the conceptual system of the L1 reorganisable in favour of the L2?

LR comprises various proposals that reflect changes in intellectual climate since the dawn of philosophy (for comprehensive historical accounts see Gentner & Goldin-Meadow 2003, Gumperz & Levinson 1996, Lucy 1992). The most resonant proposal in the last century has been termed the *Sapir-Whorf hypothesis*¹. It represents the strong version of the LR hypothesis and it also became known as the theory of *linguistic determinism*.

Users of markedly different grammars are pointed by their grammars toward different types of observations and different evaluations of externally similar acts of observations, and hence are not equivalent as observers, but arrive at a somewhat different view of the world.

(Whorf, 1956:221)

Sapir and Whorf advocated that language determines the basic categories of human cognition, in other words, that thoughts cannot exist freely without being

¹ Gumperz and Levinson (1996:5) point out that Sapir may have originated the phrase, but the *locus classicus* of the concept of linguistic relativity is the popular articles by Whorf (1956:207-33)

constrained by the language one speaks. Under this view, if there is no word for a certain concept, its speakers will not be capable of understanding it.

Linguistic determinism underwent fierce criticism and after confrontation with solid contrary evidence it was sentenced as an extravagant speculation. Common sense tells us how naïve it would be to think that English speakers who do not have an equivalent word for the German *Schadenfreude* would be unable to understand the concept of relishing in someone else's misfortune; or that Chinese speakers would have problems to comprehend the notion of futurity just because Chinese grammar does not have a future tense (Deutscher 2010). Also, as argued by Pinker (1994, 2007), if thoughts were entirely locked up in words, how could we understand finer ambiguities in expressions like '*Kids make nutritious snacks*'? And how would we ever coin new words for new concepts if we were unable to imagine their meanings?

Absence of a direct mapping between language and thought poses an insurmountable problem for the strong version of the LR hypothesis, nevertheless, its weaker alternative has managed to accumulate substantial empirical support. The weak version posits that languages do not *determine* but *influence* cognition. The locus of influence lies not in what a language allows us to think but in what it routinely guides us to notice and specify. Origins of this view can be traced back to Roman Jakobson, who pointed out that 'the true difference between languages is not what may or may not be expressed but in what must or must not be conveyed by the speakers' (1959:142). Language certainly has the power to make some distinctions difficult to ignore, and these distinctions boast vast crosslinguistic variation (cf. Evans & Levinson 2009). For instance, when

reporting a past event, speakers of Algerian Arabic are obliged to specify whether it was completed or not, speakers of Spanish or Russian have to mark if it was during the moment of speech or before, and speakers of Matsigenka have to provide an exact distinction if it was directly experienced vs. inferred vs. conjectured. Thus, whenever we use a language, we must be attentive to particular aspects of experience that are obligatorily coded in that language. Dan Slobin (1996) called this mental activity *thinking for speaking*. It is a process of message generation prior to expression, with expected crosslinguistic differences linked to aspects of experience the speaker must attend to. The basic tenets of the Thinking for Speaking hypothesis, as a representative of the weak version of LR, can be summarised as follows:

- The activity of thinking takes on a particular quality when it is employed in the activity of speaking. In the evanescent time frames of constructing utterances in discourse one fits one's thoughts into available linguistic frames.
- Thinking for speaking involves picking those characteristics of objects and events that (a) fit some conceptualization of the event, and (b) are readily encodable in the language.

(Slobin 1996:76)

One way to examine the validity of these claims is to compare the syntax and lexicon in event descriptions by native speakers of languages that differ typologically in how they encode semantic categories (such as time, space or motion). If the basic components of human cognition were independent of language (Fodor 1975, Li & Gleitman 2002, Pinker 1994) and if relevant linguistic categories were 'more-or-less straightforward mappings from a pre-existing conceptual space programmed into our biological nature' (Li & Gleitman 2002:266), we would expect little crosslinguistic variation in reference to common temporal and spatial phenomena. However, numerous studies on motion events

(e.g. Berman & Slobin 1994, Bowerman & Levinson 2001, Filipović 2007, Hickmann & Hendriks 2006) showed substantial crosslinguistic variability in encoding even the most basic spatial components (path vs. manner), presenting a serious challenge for the universalist view and corroborating predictions of the Thinking for Speaking hypothesis.

Further evidence for the link between crosslinguistic structural and lexical variability and the typical spatial and motion features that speakers habitually attend to or ignore comes from studies on attention patterns and memory for motion events. Genari *et al.* (2002), Flecken (2011), Papafragou *et al.* (2008) as well as Schmiedtová *et al.* (2011) showed that when speakers of different languages are asked to concentrate on watching events in preparation for a verbal description, significant crosslinguistic differences appear in terms of focus on event components, which correspond to how readily² particular components are formally encodable in the given language. These findings indicate that the influence of language on thought can be exerted already in the utterance planning processes immediately before speech, i.e. in thinking for speaking. Besides its relevance for speaking, research has shown that Slobin's hypothesis also applies to a range of other processes in L1 production (writing, signing), reception (reading, listening) as well as higher-order processes (remembering, similarity judgement) (cf. Han & Cadierno 2010).

Another effective way to test the Thinking for Speaking hypothesis is by looking at second language learner production. Should there be a difference in

² Following Slobin (1996:92), the term *readily encodable in the language* is restricted to closed-class grammatical morphemes, specifically tense/aspect inflections, verb particles and prepositions.

thinking for speaking patterns between the learner's source and target languages, reorganisation of L1-based thinking for speaking is needed in order to achieve functional mastery of the L2. This involves how to make new attributions to familiar objects and events (Jarvis & Pavlenko 2008), which requires adjusting L1-guided frames of reference and discourse organisational principles to those compatible with the L2. As pointed out by Slobin, conceptual reorganisation (i.e. the changes in speaker's linguistic categories, considered as a subset of cognitive categories) presents adult L2 learners with an enormous challenge.

Each native language has trained its speakers to pay different kinds of attention to events and experiences when talking about them. This training is carried out in childhood and is exceptionally resistant to restructuring in adult second-language acquisition.

(Slobin 1996:89)

Symptoms of thinking in L1 for speaking in L2 have been observed in several studies examining advanced and intermediate learners with typologically distant L1s and L2s in the domains of event construal (Schmiedtová *et al.* 2011, von Stutterheim *et al.* 2012), voluntary and caused motion (Cadierno 2004, Hendriks *et al.* 2008, Kellerman & van Hoof 2003), as well as object categorisation (Athanasopoulos & Kasai 2008). These studies not only point to the validity of the Thinking for Speaking hypothesis for SLA, but also invite further application of this framework to assist in deciphering yet unsolved SLA puzzles. One such conundrum that the present investigation addresses is whether the process of acquiring a new way of thinking for speaking changes as a function of similarity or difference between the learner's L1 and L2 thinking-for-speaking patterns. With focus on the domain of temporal reference in discourse, this work scrutinises whether the language acquisition trajectory of adult L2 learners with a

typologically more similar L1-L2 pair displays more target-like thinking-for-speaking patterns than comparable learner groups with a typologically more distant L1-L2 pair. Inclusion of formally proficient advanced L2 learners in such comparisons holds the promise of providing a better understanding of the extent to which reorganisation of L1-based thinking for speaking in favour of the L2 is possible.

2.2.3 *Ultimate attainment in second language acquisition*

Can second language learners ever fully achieve the competence and performance level of native speakers? Why is it that children are typically much more successful in mastering their L1 than learners are in acquiring their L2? These questions have remained controversial since posed by Wilhelm von Humboldt (1767-1835), who promoted that the language-thought relation is so highly specific that full attainment of another language is impossible³.

To learn a foreign language should therefore be to acquire a new standpoint in the world-view hitherto possessed, and in fact to a certain extent is so, since every language contains the whole conceptual fabric and mode of presentation of a portion of mankind. But because we always carry over, more or less, our own world-view, and even our own language view, this outcome is not purely and completely experienced.

(von Humboldt [1836], 1988:60)

There have been manifold attempts to explain why L2 acquisition generally falls short in matching the success of L1 acquisition. One explanation is that limits in the endstate of L2 learning are attributable to maturational constraints, in the sense that only the L2 learning population that starts early enough can attain absolute TL success. This premise forms the backbone of the well-known *Critical period*

³ For a more detailed discussion on Humboldt's ideas that one always more or less carries over 'hinüberträgt' one's own world-view, indeed language-view 'Weltansicht' and 'Sprachansicht', see Odlin (2008:306-8).

hypothesis (CPH, Lenneberg 1967), which stipulates that only learners starting before puberty can acquire native-like L2 competence since after age 12–13 cerebral plasticity becomes significantly reduced. An alternative interpretation from a general cognitivist perspective is that limited endstate in L2 is not so much about the critical age of onset of L2 acquisition but rather a problem induced by the learner's selective attention to L1-driven form-meaning relationships which hamper attaining L2 native-likeness⁴.

The ways first language usage induces interference, overshadowing and blocking, and perceptual learning, all bias the ways in which learners selectively attend to their second language. These are associative mechanisms that underlie learned attention as it affects 'thinking for speaking' and 'thinking for listening', the usage that underpins language learning itself.

(Ellis 2008:397)

Those categories and form-meaning relationships which differ in the learner's L1 and L2 are most likely to be problematic since they require reorganisation. The nature of this problem can be aptly elucidated by the *perceptual magnet theory* (Iverson *et al.* 2003). It proposes that the prototypical categories of the L1 function like magnets of attention and distort the perception of those categories and form-meaning relationships in L2 which are absent or coded differently in the L1. Ellis (2008:394) also emphasises that L1-specific perceptual processing can alter the relative saliency of L2 elements, leading to entrenchment in the L1 patterns instead of optimal tuning the language system to target-like L2 input. It

⁴ Note that *native-like* and *near-native* are not interchangeable terms. Following Hyltenstam & Abrahamsson (2012:182), in this work *near-native speaker* refers to individuals who are perceived, in normal oral interaction, as native speakers but who can be distinguished from native speakers when their L2 proficiency is analysed in greater linguistic detail. In contrast, *native-like speaker* refers to individuals whose use of the L2 is in all respects commensurate with target language competence and behaviour, even when diagnosed via (a) stringent linguistic measurement in demanding tests; (b) detailed linguistic analyses conducted with extreme care; and (c) diverse measures rather than just one or a few linguistic domains.

follows that in suboptimal SLA environments with restricted target-like L2 input, elusive elements are even more highly prone to being filtered out or to pass unnoticed.

Experimental investigations of age as a factor as well as the selective attention to features with low physical saliency in L2 illustrate the robustness of both phenomena. A particularly fruitful area of SLA research on these phenomena comes from studies with adult high-proficiency late L2 learners recruited for their potentially native-like capacities. Montrul & Slabakova (2003) tested high-level proficiency late L2 learners of Spanish ($AOA \geq 12$ years) on their knowledge of morphological and semantic properties of aspectual tenses, an area known to be challenging even for Spanish natives. 12 out of 17 learners were found to be native-like in a sentence-conjunction and a truth-value judgement task, which lead the researchers to conclude that native-like mastery of the Spanish aspect system is indeed attainable also by late L2 learners. Comparable conclusions were drawn by van Boxtel *et al.* (2005) who examined the acquisition of the dummy subject construction in Dutch (considered an extremely difficult structure with no available explicit rules) by late ($AOA \geq 12$ years) high level proficiency L2 learners with German, French and Turkish L1s. Eight out of 43 learners showed native-like command of this construction, implying that untutored acquisition of difficult structures is possible despite late AOA (in van Boxtel's words: '*some late birds can catch the worm*'). Success of late learners in these studies poses a direct challenge to the CPH.

Some researchers consider the inquiry of ultimate attainment via one or just a few linguistic tests unsatisfactory, and propose a combination of diverse

measures instead. In a study on the acquisition of English by 30 highly proficient late learners, Marinova-Todd (2003) employed a set of nine instruments⁵ and found that the great majority of learners did not pass for native speakers on all tests, yet a few individuals did manage. Different results came from the study by Abrahamsson & Hyltenstam (2009) testing high level late Spanish learners of L2 Swedish by means of a complex set of ten linguistic measures⁶. Not one out of ten late learners (AOA 13-19) exhibited qualities which would match Swedish L1 performance on more than 7 tests. The authors concluded that ‘native-like proficiency is, in principle, never attained by adult learners’ (Abrahamsson & Hyltenstam 2009:289). In brief, reports on successful attainment of native-likeness by late L2 learners to date are immensely varied, ranging from (a) frequent occurrences (Montrul & Slabakova 2003); (b) sporadic occurrences (van Boxtel *et al.* 2005); to (c) zero occurrences (Abrahamsson & Hyltenstam 2009). Moreover, a detailed performance scrutiny of early learners in the latter study showed that only 3 out of 25 managed to fit in the native-like margin, suggesting that an early AOA is a necessary yet not a sufficient condition for native-like ultimate attainment. These results signal that insistence on a single critical period in future research regarding endstate in L2 would be overly simplistic.

⁵ The nine testing instruments Marinova-Todd (2003) used to assess ‘global native-likeness’ comprised: (1) elicited speech, (2) spontaneous speech, (3) receptive vocabulary, (4) productive lexical diversity, (5) grammaticality judgement task (GJT), (6) production, (7) sentence comprehension, (8) politeness strategies, and (9) narrative ability.

⁶ Abrahamson & Hyltenstam (2009) measured L2 Swedish proficiency by means of (1) voice onset time (VOT) production, (2) VOT perception, (3) babble noise test, (4) white noise test, (5) auditory GJT, (6) written GJT, (7) reaction time and GJT, (8) cloze test, (9) idioms, (10) proverbs.

2.2.4 *Conceptual transfer and crosslinguistic influence*

Current understanding of the potential influence of language on cognition largely rests on assumptions formulated within the Linguistic Relativity Hypothesis (LR) and the Conceptual Transfer Hypothesis (CTH). Relativity and conceptual transfer⁷ can be seen as interdependent yet not fully identical phenomena. LR highlights the influence of language-specific properties on cognition (including non-verbal cognition), resulting in conceptual differences between speakers of various L1s, and affecting production and comprehension in L2 (Odlin 2005:5). CTH assumes that the conceptual distinctions acquired in one language affect the speaker's performance (excluding non-verbal tasks) in another language (Jarvis & Pavlenko 2008:115). One important difference with implications for SLA is the source of crosslinguistic influence. LR emphasises that crosslinguistic influence stems from differences in language grammars. In contrast, CTH extends to an extra-linguistic dimension and incorporates the idea of *discursive relativity* (Lucy 1996), i.e. that 'language-specific cognitive patterns arise from conceptual distinctions as well as patterns of conceptualisation that people acquire as members of particular discourse communities, irrespective of the grammars of their languages' (Bylund & Jarvis 2011:47). The present work is framed within the LR approach, consistent with the Thinking for Speaking Hypothesis in assuming an influence of language-specific grammaticalised categories on conceptualisation patterns (i.e. different ways of thinking about and expressing particular aspects of experience).

⁷ *Transfer* is used as a neutral label denoting possible mother tongue influence on the process of second language acquisition, without any association to the behaviourist psychological framework in which the term originally developed.

Another definitional specification is important for relating linguistic relativity and *meaning transfer*, i.e. influence from the semantics or pragmatics of the L1. Odlin (2005, 2010) points out that not all cases of meaning transfer involve linguistic relativity and suggests that transfer of concepts should be seen as a subset of meaning transfer. He gives a cogent example from L1 Polish advanced learners of L2 English, who (similarly to other Slavic learners of English) frequently make the semantic error of using first-person plural for a singular referent, as in *We were at the theatre last night with my brother* instead of *I was at the theatre last night with my brother*⁸ (Odlin 2010:192, example retrieved from Gotteri & Michalak-Gray 1997:180). The Polish equivalent of *we were*, i.e. *byliśmy*, normally signals more than one referent but in comitative constructions, as in the above example, it can serve as a marker of first person singular reference. While this error in English L2 by Polish learners is a clear illustration of semantic and pragmatic transfer, it cannot qualify as conceptual transfer because there is no reason why the Poles would not be able to conceive of the difference between singular and plural referents. Cases when L1 transfer is related purely to semantics and pragmatics are beyond consideration in this dissertation.

2.2.5 *The grammatical aspect approach*

To inspect the role of grammar in message generation for expressing events, the present work is framed within the *grammatical aspect approach*:

⁸ It should be noted that in Polish, unlike in English, the equivalent of *I was* (i.e. *byłem*) as well as of *we were* (i.e. *byliśmy*) are both perfectly felicitous for referring to 1st person singular in contexts like the example given, and in such contexts they express the same meaning.

- Speakers of different languages talk differently about the same subject matter;
- In particular, they construe events for verbal representation according to different principles;
- The structural property affecting patterns of event construal is verbal aspect.

(von Stutterheim, Nüse, Murcia-Serra 2002:184)

The underlying assumption is that preferences in event⁹ construal are linked to the availability of grammatical forms that encode a particular conceptual category in a given language. In the domain of temporality, ongoingness is one of the conceptual categories with evident crosslinguistic differences in the levels of grammaticalisation. There are languages such as English, Arabic and Spanish, in which this category requires to be marked via verbal morphemes. In other languages, e.g. Swedish or German, this concept can only be expressed lexically as their grammars do not encode aspect. The advocated idea is that ‘when a grammaticalised conceptual category is obligatory, it has a high level of automatization in use in the relevant contexts’ (Schmiedtová, von Stutterheim & Carroll 2011:68). Following this line of thought it is posited that speakers of languages encoding the concept of ongoingness grammatically within their aspectual system will exhibit a high level of sensitivity towards ongoingness in their event conceptualisation processes. By contrast, speakers of languages with no specific marker for ongoingness (like Hungarian) or having a specific ongoingness marker only for a small group of verbs (like Czech) are expected to show lower sensitivity to this concept since their grammars do not direct their

⁹ *Event* and *time* are treated as closely interlinked categories and this work is based on the definition of event as a ‘self-contained segment in a conceptual representation of a network of interrelated situations, a predicate-argument structure, which holds for a specific temporal interval’ (von Stutterheim *et al.* 2002:181).

attention to this particular event feature. If these claims are valid, we should find marked crosslinguistic differences in event construal processes.

Selection of endpoints for verbalisation of goal-oriented motion events in previous studies was indeed found to coincide with the levels of grammaticalisation of ongoingness (Flecken 2010; Schmiedtová *et al.* 2011; von Stutterheim & Carroll 2006). Cross-linguistic experiments showed that when the endpoint is not reached but inferable from the stimulus, speakers of languages with no or irregular ongoingness marking systematically include it for verbalisation (e.g. *a builder is climbing on a ladder towards a balcony*). In contrast, speakers of languages with regular ongoingness marking tend to omit endpoints for the same events and focus on the ongoing phase in their linguistic encoding. Differences in what constitutes a reportable event unit are attributable to grammatical aspect. It seems that speakers of languages with no or irregular grammatical marking of ongoingness are not restricted in their assertions by the deictic ‘now’ of the utterance and therefore typically view a given event together with its goal belonging to a future point in time. For speakers of languages having a specific regular marker for ongoingness, any phase of an ongoing activity can constitute a reportable event but future endpoints exceed the scope of the deictic ‘now’ (more details in chapter 6). These assumptions are in accordance with Slobin’s (1996) view that grammar is not a mere formal system but a set of general notions forming a schematic framework for conceptual organisation.

2.3 Examining temporal reference across languages

Natural languages have developed a great variety of linguistic means to deal with a complex network of temporal relations. For example, speakers depending on means provided by their language can express that one situation follows another via tense, aspect, time adverbials, serial verb constructions, temporal particles and also via discourse principles such as the principle of natural order. There are a number of questions that arise at this point. What does time actually mean in language for different language speakers? Do native speakers of say English or Finnish conceptualise time similarly to speakers of Czech or Yucatec? And if at least partly yes, then which are those features that can be considered conceptual universals of temporality?

2.3.1 *The Basic Time Structure*

The sum of temporal features which are most essential for expression in language was defined as the *Basic Time Structure* (BTS) (Klein 1994, 2009a). These features are (a) *segmentability*, i.e. the possibility to divide time into smaller time spans; (b) *inclusion*, i.e. one time span may be partially included in or fully overlapping another one; (c) *succession*; i.e. if we have two time spans which are not including or overlapping each other, then one either precedes or follows the other; (d) *proximity*; i.e. if we have two time spans, then one may be near to or far from the other; (e) *duration*; i.e. individual time spans may be short or long in duration; and (f) *origo*, i.e. a time span of ‘present experience’, identical with the moment of speech, related to which everything before is accessible to us only by memory and everything later only by expectation. These features are

indeed interconnected and together form a layer on which the expression of temporality in language is founded. Extra layers that can be added often stem from distinct cultural traditions (e.g. they can be given by significant points in history of a particular culture, which mark anchor points: the Hijra for the Islamic calendric system, the beginning of the Xia dynasty for the Chinese, etc.).

In fact, the BTS was derived from just a few well-described languages and represents only a part of time concepts that may be found cross-linguistically. Nevertheless, it perfectly meets the requirements of the present research for two important reasons. Firstly, it is flexible enough to embrace phenomena for analysing the expression of temporality not only across languages but also in L2 learner varieties. Instead of focusing solely on morpho-syntactic markings of temporality via tense and aspect (e.g. Bardovi-Harlig & Reynolds 1995; Andersen & Shirai 1996), the BTS facilitates the examination of a fuller temporal picture by simultaneously considering lexical devices (i.e. time adverbials), morpho-syntactic devices (i.e. verbal affixes and auxiliaries), as well as discourse organisational principles (e.g. patterns of temporal framing). This is vital for a truly language-neutral analysis because (a) not all languages require explicit marking of tense (e.g. Mandarin Chinese, Yucatec Maya) or aspect (e.g. Dutch, German, Hungarian); and (b) learners especially at earlier stages of acquisition largely depend on other than grammatical means to express temporality (Dietrich *et al.* 1995). So if we allow temporal analysis to hinge purely on verbal morphology, we are indeed very likely to miss the complete developmental picture in learner varieties and we also automatically disqualify languages with no overt temporal marking on verbs from cross-linguistic analyses.

Secondly, the BTS enables to draw a clear distinction between *external* (i.e. tense, grammatical aspect, positional time adverbials (TADVs) and discourse principles) and *internal* means for temporal reference (i.e. Aktionsart, TADVs of duration). Such differentiation is crucial for both developmental and cross-linguistic comparative purposes since it disambiguates grammatical and lexical aspect. This is necessary if we want to avoid complications from earlier research when studies on the acquisition of temporality have used the term aspect interchangeably to refer to both grammatical aspect and Aktionsart (Smith 1997), resulting in problematic comparability of research results.

The BTS models possible external temporal relations by means of two time spans, *theme* and *relatum*. The following relations can emerge:

- BEFORE, i.e. the theme precedes the relatum properly ^^^ ^^ *****
- LONG BEFORE, i.e. the theme precedes the region of the relatum ^^^ ^^ (*****)
- SHORTLY BEFORE, i.e. the theme precedes the relatum, but it is in the region of the relatum (^^ ^^ *****)
- JUST BEFORE, i.e. as SHORTLY BEFORE but the theme abuts the relatum ^^^ ^^*****
- PARTLY BEFORE, i.e. the first part of the theme precedes and the second part of the theme is IN the relatum (the region is irrelevant) ^^^ ^^*^^*^^*
- INCL, i.e. the theme is fully included in the relatum **^^*^^*^^*^^*
- AFTER, i.e. the relatum precedes the theme *****^^^ ^^

(Klein, 2009:31-32)

By analogy, other temporal relations can be defined such as JUST AFTER, SHORTLY AFTER, PARTLY AFTER and LONG AFTER. Theme and relatum are assigned different functional values as temporal relations get verbalised in communication. When speakers communicate, the relatum is given, and functions as an anchoring point. The theme gets located in time with respect to the given relatum. The BTS distinguishes three possibilities for a relatum to be given: (a) deictic, (b) anaphoric, and (c) calendric. The *calendric relatum* is an anchoring point based on a significant event in history of a particular culture. The most common anchoring point (for temporal relations in general) is *the deictic relatum* known as time of utterance (also called *origo*, or the “moment” of speech). The third possibility for a relatum to be given is by anaphora, i.e. as *anaphoric relatum*, which means that the relatum has its antecedent mentioned in preceding context. Anaphoric relata may surface in three ways: (a) intra-clausally, as in ‘*At midnight, the alarm went off*’; (b) inter-clausally, as in ‘*When Hugo saw her, his jaw dropped*’; and (c) introduced in the preceding utterance, as in ‘*That weekend Saori lost interest. Just a few days before, she had been madly in love*’. A frequent phenomenon in discourse is the formation of *anaphoric chains*, when an anaphoric relatum is temporally linked to the preceding one and that in turn is linked to another one (more in section 2.3.5).

The functional difference between theme and relatum is well signalled via tense. For instance, when ‘*Oscar shouted*’ is said in a specific conversation, the time of Oscar’s shouting (i.e. the topic time) is the theme, and the “moment” of speech (i.e. the time of utterance) is the relatum. Tense here shows that the theme precedes the relatum.

2.3.2 Tense and the BTS versus the traditional accounts

Tense is traditionally defined as the ‘grammaticalised expression of location in time’ (Comrie 1985:9). In other words, the general agreement on what tense means has been summarised as the *canonical view*:

TENSE A category used in the grammatical description of verbs (along with aspect and mood), referring primarily to the way the grammar marks the time at which the action denoted by the verb took place. Traditionally, a distinction is made between past, present and future tenses, often with further divisions (perfect, pluperfect, etc.).

(D. Crystal, *A Dictionary of Linguistics and Phonetics*, 2003:459)

For the purposes of the present work I adopt Klein’s (1994) approach to tense, for which it is essential to differentiate between three time spans: (a) *the time of utterance* (TU), i.e. the time at which the utterance is expressed; (b) *the topic time* (TT), i.e. the time about which something is asserted or asked; and (c) *the time of the situation* (TSit), i.e. the time at which the situation occurs. The role of tense within the BTS is to express a relation between the time of utterance TU and the topic time TT. Frequently occurring tenses in many languages can be viewed as simple configurations of TU and TT. For an illustration, in English, in example (1a) the topic time is located before the utterance time to express PAST, in (1b) the topic time is simultaneous (at least to some extent) with the utterance time to express PRESENT, and in (1c) the topic time follows the utterance time to express FUTURE.

(1) Expression of tense as a relation between topic time and utterance time

a. <i>Stig blushed</i>	past tense:	TT before TU
b. <i>Stig blushes</i>	present tense:	TT includes TU
c. <i>Stig will blush</i>	future tense:	TT after TU

Traditional analyses (e.g. Huddleston & Pullum 2002:125; Quirk *et al.* 1995:186 for English) take the time of the situation (TSit), in our example i.e. the time of *Stig's blushing*, to be the theme, which in (1a) is located in the past. In contrast, Klein (1994) argues that tense has no relevance to how the situation time TSit relates to the utterance time TU, but the role of tense is to signal how the topic time TT relates to the utterance time TU. As an example to elucidate this important difference, Klein's account would be that (1a) tells us nothing about the colour of Stig's face at the moment of speech, it only tells us about the state of affairs claimed to be true for some time span before the moment of speech, and therefore, there cannot be a relation between situation time TSit and utterance time TU. In other words, the span of *Stig's blushing* located in time is not the time of the situation but the time for which an assertion is made, i.e. in the topic time.

There is a wide spectrum of languages, including Hungarian and Czech, with rich tense marking on finite verbs by means of inflections. In contrast, we also know of languages with no tense marking on the verb (e.g. Mandarin Chinese) or no tense marking whatsoever (e.g. Kalaallisut and Yucatec Maya). Even within languages that normally mark tense on the verb it is rare to find morpho-syntactic marking in early or fossilised learner varieties (cf. Dietrich *et al.* 1995). This is the main reason for employing the BTS framework in the present study. Klein's interpretation of tense as a temporal relation between TU and TT enables to investigate how language learners refer to time also before they have mastered the use of explicit morpho-syntactic tense markers. Having BTS as the analytical framework thus makes it possible not to consider tense, as in traditional analyses, to be the most important device for marking temporality, and instead, to

focus on the functional relation between utterance time and topic time regardless of how it is marked.

2.3.3 Grammatical aspect and Aktionsart examined via BTS

Grammatical aspect, also known as viewpoint aspect, is traditionally defined as ‘different ways of viewing the internal temporal constituency of a situation’ (Comrie 1976:3). Framed within the BTS, various ways of viewing and presenting the time course of a situation essentially means ‘ways of relating the time of the situation to the topic time: TT can precede TSit, it can follow it, contain it, or be partly or fully contained in it’ (Klein 1994:99). Grammatical aspect in many languages is an inflectional category of the verb just like tense. For example in English, the *is+ing* form (2a) signals that the topic time TT is properly included in situation time TSit, or in other words that the time for which an assertion is made falls completely within the TSit, giving the impression that the situation is seen from its inside. This is the way *imperfective aspect* is marked in English. The most common distinction is drawn between imperfective and *perfective aspect*.

(2)	a. <i>Olaf is shouting now</i>	TT is included in TSit	imperfective
	b. <i>Olaf shouted</i>	TT includes TSit	perfective
	c. <i>Olaf has shouted</i>	TT follows TSit	perfect
	d. <i>Olaf is going to shout</i>	TT precedes TSit	prospective

The imperfectivity vs. perfectivity contrast can be lucidly explained using the camera lens metaphor (Comrie 1976; Starren 2001). Applied to the BTS framework and its three time spans, we can imagine the TT as a camera that is able to zoom in on particular parts of TSit. When the camera zooms in and shoots

in the middle of a situation which is viewed without its boundaries as in (2a), we are dealing with *imperfectivity*. On the other hand, when the camera zooms out and shoots the total situation as a completed whole, i.e. including the time when the situation has come to an end as in (2b), we call this *perfectivity*.

A further distinction in terms of viewpoint can be drawn between perfective and *perfect aspect*, by looking at the posttime (i.e. the time after TSit) and its varying relation to TT. In the perfective (2b) TT is partly included in the posttime of the situation (graphically i.e. $\text{^^^^^^^^}[\text{^^**}]*****$), while in the perfect (2c) TT is completely contained in the posttime of the situation (graphically i.e. $\text{^^^^^^^^}*****[\text{***}]**$). Another distinguishing feature, directly inferable from the graphical illustration, is that for the perfective the part of the posttime which is included in TT has to be adjacent to the TSit, whereas for the perfect there is no such requirement. It means that the perfect aspect in ‘*Olaf has shouted*’ constrains TT to be fully in the posttime but allows it to be non-specifically distant from TSit, i.e. from Olaf’s time of shouting.

Some languages have developed a counterpart to the perfect known as *prospective aspect*, which locates TT in the pretime of the TSit as in (2d). Klein (1994:115) observes that the notion of prospective aspect is not straightforward since in most modern European languages future tenses undergo a transition from lexical future to prospective aspect and in the last stage to future tense. In English, the lexical future stage used to be expressed by including TT in the first state of lexical content expressing weak obligation – *shall*, or volition – *will*, whose second state included TU. In the prospective aspect stage TT includes TU while

TT is in the pretime of TSit as in *Olaf is going to shout*, and in the future tense stage TT follows TU while TSit includes TT as in *'Hugo will collapse'*. Klein suggests that a reliable diagnosis to distinguish between prospective aspect and future tense is to put the auxiliary which carries the TT into the past. If the auxiliary retains its function of marking TT before TSit as in *'Olaf was going to shout'*, we should treat this construction as a prospective aspect.

It is important to emphasise that grammatical aspect operates in very different ways across languages. In Russian for instance, most verbs can have two morphologically distinct forms representing imperfective vs. perfective (e.g. *pisat'* "to write" vs. *napisat'* "to write up"). In contrast with English, imperfectives in Russian, as in most Slavic languages, do not necessarily signal ongoingness and their English equivalent would often be the simple rather than the progressive form. Another hurdle for a straightforward crosslinguistic comparison is that aspect is often intertwined with tense. Both could be truly independent categories only if there was identical aspectual contrast found for every tense. While this is almost the case in English, most languages do not work this way. How can a heterogeneous concept like grammatical aspect be made comparable and examined across languages and in learner production? We know that in the BTS both tense and aspect are classified as external temporal properties, and that while tense represents the global relation between TU and TT, aspect tells us about the local relation between TT and TSit. This provides a relatively stable framework for analysing how topic time is managed to establish and maintain temporal coherence. What needs to be considered alongside grammatical aspect is that the way TSit is related to TT can also be influenced by Aktionsart.

Aktionsart, also referred to as lexical aspect, is the inherent lexical temporal quality associated with verbs. Verbs exhibit considerably different properties with regards to their internal temporal features and can be grouped into various classes (e.g. *to fall* classified as an event versus *to own* as a state). One of the frequently applied classifications of verbs based on their inherent temporal qualities is Vendler's model (1957) which distinguishes four lexico-aspectual categories:

(a) States	durative, static	(<i>believe, own</i>)
(b) Activities	durative, dynamic	(<i>walk, meditate</i>)
(c) Accomplishments	durative, dynamic, telic	(<i>finish, leave</i>)
(d) Achievements	dynamic, telic, instantaneous	(<i>land, arrive</i>)

(Vendler, Z.; *Verbs and Times*, 1957:143-160)

Smith (1997) adds that it is not only the lexical make-up of the verb per se which helps to identify internal temporal properties of situations but that *Aktionsart* extends to more complex verb structures and VPs (e.g. *to fall apart* or *to walk through the forest*). In the Vendlerian taxonomy, the property [+dynamic] distinguishes activities from states, [+telic] (i.e. including an endpoint) accomplishments from activities, and [+punctual] achievements from accomplishments. A further category of *semelfactives* (dynamic, atelic, instantaneous, such as *to knock* or *to tap*) was later posited as an independent fifth class of *Aktionsarten* (Comrie 1976).

Within the BTS, the temporal properties reflected in the lexicon are defined on the basis of how they relate to topic time:

0-state contents	no TT contrast	(<i>love, be</i>)
1-state contents	at least one TT contrast	(<i>swim, look</i>)
2-state contents	internal TT contrast	(<i>break, find</i>)

(Klein, W.; *Time in Language*, 1994:101-106)

More explicitly, 0-state contents are [–dynamic–telic] and thus identical with statives, 1-state contents are [+dynamic–telic] like activities, and 2-state contents are [+dynamic+telic] like accomplishments and achievements. 0-state contents can be considered atemporal since there is zero TT contrast (i.e. if 0-state contents are linked to a specific TT, it follows that they are automatically linked to any other TT because there is no TT for which the given situation is not true) as in *to be Icelandic* or *to love cheesecakes*. However, 1-state contents involve a TT contrast on both sides. This means that a lexical content such as *she smokes on the balcony* is normally limited in time and thus there is a topic time before and also after at which she does not smoke on the balcony. For 1-state contents there are three possible constellations of situation time and some topic time: TSit can fully include TT, partly include it, or completely exclude it. This does not hold the same way for 2-state contents, which include a source-state and a target state (e.g. in temporal order the source state for *to wake up* is *to be asleep* and the target state is *not to be asleep*). For 2-state contents there is a greater variety of relations between TSit and TT. TT can be located in the source state, it can be in the target state, it can include part of both, or it can be in part of the target state and the state which follows it and so on. The lexical content remains identical but what changes is its relation to some topic time, which depends on the internal temporal properties of individual events that are described. It has been observed that

distinguishing between 0-state, 1-state and 2-state expressions in early learner varieties is rarely a straightforward task, since learners often use one verb for many functions (e.g. *see* for *see*, *look*, and *watch*; or *search* for *search* and *find*; examples from Starren 2001:31). To address this challenge in a competent way, the present work employs carefully controlled communicative tasks to increase comparability and bases all analyses on systematically coded data (Chapter 4).

2.3.4 Temporal adverbials and their analysis

The expression of temporality via time adverbials in many languages by far surpasses the range of possibilities to specify temporal properties via tense and aspect marking. In terms of functions, TADV's can be divided into four main groups:

- **Adverbials of position** – express a relation such as BEFORE, AFTER, SIMULTANEOUS between two time spans – a time somehow positioned (theme), and a time which is used as an anchor (relatum): *yesterday*, *in 1984*;
- **Adverbials of duration** – specify the duration of temporal entities, i.e. how the theme is related to the duration of some other situation, and they can be indicated vaguely: *forever*, *for a while*, or precisely: *for ten seconds*;
- **Adverbials of frequency** – quantify over time spans, i.e. they indicate the frequency of temporal entities, like time spans or possibly situations which obtain at these time spans: *often*, *always*, *twice a week*;
- **Adverbials of contrast** – indicate a comparison between the time span referred to and another time span which is contextually implied: *already*, *still*, *yet*.

(Adapted from Klein 2009b:64-9)

Adverbials of position serve to specify the external temporal relationship between theme and relatum. They show how one time span relates to another one that is contextually given by anaphoric (*then*, *after the lecture*), deictic (*next week*), or calendric means (*on July 4th at 6 am*). Adverbials of duration serve to express the

internal temporal properties of two related time spans by defining their boundaries and duration. Interestingly, some adverbials of position (*nine months ago, recently*) can also have a durational element. Although their primary role is positional, they also signal the duration between theme and relatum with various degrees of specificity. Adverbials of frequency tell us about the occurrence involved in time spans (*once, never*).

Adverbials of contrast (*already, again*), express nothing about temporal relations like position, duration or frequency, yet they clearly have a temporal quality. Their functions are rather complex, mainly because of varying scope (Klein 2009b:67). For instance, the proposition *Julie made him smile again* has two interpretations of *again*, a repetitive and a restitutive one. The former reading is that Julie's making him smile did not happen for the first time, whereas the latter is that she made him smile and thereby restored an earlier state of him smiling. The BTS can account for such ambiguity by positing that predicates such as *to make him smile* involve two intervals: a source state (he is not smiling when the agent does something) and a target state (he is smiling). When *again* has scope over both states we get the repetitive reading, when it only involves the target state then the reading which applies is the restitutive one. The interaction of contrastive TADVs with other sentence elements is a complex issue also because contrastive TADVs can appear in many different intra-sentential positions, causing changes in meaning. Although their analysis presents a formidable task, the BTS has proved operational for this purpose.

2.3.5 Discourse principles as an integral part of temporal reference

Looking beyond the single utterance level is often necessary for decoding temporal reference because contextual information is vital for making felicitous inferences. In other words, one needs to take the preceding and the following information unit into consideration since even relatively simple events often involve an intricate network of temporal relations which may spread over a number of utterances. Temporal reference, therefore, needs to be seen as an interaction of grammatical, lexical and discourse levels. This interaction is bidirectional (Gumperz & Levinson 1996). Discourse organisational patterns have an influence on the use of lexical and grammatical means in terms of frequency of occurrence, or they can instigate the use of particular forms, and vice versa, the use of particular lexico-grammatical devices can affect how discourse is shaped by supporting the organisation of information structure in a specific manner. Previous research examining the role of discourse organisation in temporal reference identified a number of important principles that hold across languages. Some simple discourse principles that work on the basis of shared knowledge between the speaker and the listener, and have also been attested in early learner varieties, include framing, chaining and repeated anchoring:

- **Framing** – a time span is introduced, and this time span functions as a reference time for the following events that it includes;
- **Chaining** – a time span is introduced, and subsequent events are anaphorically related to it, either explicitly (*and then*) or via asyndetic serialisation;
- **Repeated anchoring** – a deferred time of utterance is introduced by a *verbum dicendi*. In more advanced cases, this third technique may in turn involve framing and chaining, and perhaps even repeated anchoring again.

(Dittmar & von Stutterheim 1985:142-3)

Within the BTS, discourse principles can be expressed and analysed in time-relational terms. For a brief illustration, framing is a technique of keeping TT constant with the TU, chaining means linking each TT to the preceding TSit and repeated anchoring means relating TT to TU2 which follows TU1 expressed by a reporting verb. The ways in which discourse principles are analysed within the BTS are further elaborated in chapter 4. By readily incorporating the dimension of discourse into its analytical framework, the BTS enables a fully integrated approach to the study of temporal reference.

2.4 Approaches to the study of temporal reference in a second language

A resonant issue in second language acquisition research in the past few decades has been to explain how speakers learn to verbalise fundamental cognitive categories, including time and space, in a target language. In the domain of time, learners need to acquire a wide range of devices on their way to target-like language proficiency. These devices comprise time adverbials, grammatical marking of tense and aspect, specific particles and rules of discourse organisation. A great variety of theoretical models have been developed to test hypotheses addressing the acquisition of temporal devices. Despite evident heterogeneity in terms of predictions about what knowledge is essential for mastering temporal expression in a foreign language, many of them were incorporated into systematic analyses of learner data, and contributed to the state-of-the-art understanding of second language acquisition of time. The following section surveys important

milestones in the development of approaches shaping the study of temporality in L2.

2.4.1 Morpheme order studies and the Natural Order hypothesis

A number of SLA studies conducted in the 1970s and 1980s tested the idea that both L1 and L2 learners undergo approximately the same order of acquisition (known as *natural order*) of certain grammatical morphemes on their way to proficiency in a target language. These studies comprised the earliest incidental research on the acquisition of tense and aspect in a second language. Without specific interest in the emergence of temporality in learner varieties, they dealt exclusively with the formal side, i.e. morphological marking of tense and aspect on verbs. The underlying assumption of the *Natural Order hypothesis* is that ‘learners pass through predictable stages in their acquisition of grammatical structures [and] these orders are independent of instructional sequences or even of the complexity of the structures to be acquired’ (Van Patten & Williams, 2007:27). This account emerged as a reaction against the behaviourist claims about L1 transfer. Behaviourists like Lado (1957) assumed that habits learned in L1 massively influence the acquisition and use of subsequently learned languages. By contrast, nativists, basing their claim on morpheme order studies with subjects from various L1 backgrounds, argued that the acquisition order in L2 is roughly equal irrespective of the learner’s L1.

The earliest morpheme order study can be traced to the work of Roger Brown in the early seventies. Although Brown’s (1973) study examined first language acquisition, its impact on SLA research has been significant because his

method was adapted in a substantial number of L2 studies. Brown observed that the mastery of *functors* (i.e. inflections, auxiliary verbs, articles, prepositions, and conjunctions) arose in identical order for all 3 examined subjects despite their varying age of emergent morphology and different Mean Length of Utterance (MLU) (Eve 18 months, MLU 1.68; Adam 27 months, MLU 2.06; Sarah 27 months, MLU 1.73). Motivated by surprisingly consistent findings in L1 and by a stimulating premise that there might be a natural order for acquiring grammatical structures also in L2, Dulay and Burt (1973) investigated the validity of Brown's hypothesis both cross-linguistically and cross-sectionally, with three different groups of L1 Spanish child learners of English. They found striking similarities among the groups. The subjects came from very diverse English learning environments, which strengthened the view that children utilise universal strategies for second language acquisition without reliance on L1. In line with these findings, results of another study comparing acquisition sequences of 10 English functors by native Chinese vs. Spanish speaking children (Dulay & Burt 1974) was interpreted as further evidence that acquisition sequences are virtually identical regardless of the L1. However, morpheme order studies also generated considerable scepticism because (a) groups scores of accuracy (e.g. placing irregular past before regular past) could not account for individual learner variation (Andersen 1978); and especially because (b) these studies neglected the developing learner systems by focusing only on the end state of acquisition (Dittmar 1981). Another problematic point was that the scores for successful achievement did not distinguish between the accuracy of forms and the appropriateness of their functional use, which was proved to be significantly

different in later studies, especially for the domain of time. For example, Bardovi-Harlig (1992) found much higher error rates for form than for function in her analysis of L2 learners' tense/aspect morphology. Consequently, adequate scrutiny of temporality in learner varieties could only continue once form and function got clearly differentiated.

The 1980s witnessed a distinct change from analysing verbal morphological markers as mere forms to examining them as 'the surface realisation of an underlying semantic system' (Bardovi-Harlig 2000:10). The main theoretical and empirical advances of this time can be divided into two paths in SLA research: (a) *form-to-function studies*, i.e. examining the distribution of verbal morphology which reflects the learner's underlying semantic system; and (b) *function-to-form studies* (also called meaning-oriented /concept-oriented studies), i.e. investigating the expression of semantic concepts through grammatical, lexical and pragmatic devices. Both approaches stemmed from research interest to gain insight into emerging systems rather than the end-state in learner varieties. Their major common denominator was to treat learner's *interlanguage* (Selinker 1972) as a system on its own, independently of the source and the target language.

2.4.2 *Form-to-function studies, the Aspect and Discourse hypotheses*

Advocates of the form-to-function (fotofu) approach start their analysis by looking at the forms already present in L2 production. Then they try to determine the function of particular forms based on their distribution within the learner's system. There have been two major areas the fotofu studies focused on: (a) the role of lexical aspect (i.e. the gradual emergence of verbal morphology linked to

inherent temporal features of verbs); and (b) the role of discourse (i.e. the influence of narrative structure on the emergence and distribution of verbal tense-aspect markings).

The *Aspect hypothesis* rests on the idea that lexical aspect (Aktionsart) can be directly linked to the emergence and distribution of temporal morphology in learner production (Andersen 1991). The early stages of this research area are associated with strong claims about the role of lexical aspect in SLA. Robinson (1990) formulated the *primacy of aspect hypothesis*, which posits the acquisition of lexical aspect marking before the acquisition of grammatical aspect and tense marking in the target language. This idea was a direct import from first language acquisition research, namely from the *defective tense hypothesis* (Weist 1986), claiming that verbal morphology will only mark lexico-aspectual differences and neither tense nor viewpoint aspect in the early phases of acquisition. After numerous revisions, Andersen *et al.* proposed a weaker version of the aspect hypothesis: 'First and second language learners will initially be influenced by the inherent semantic aspect of verbs or predicates in the acquisition of tense and aspect markers associated with or/affixed to these verbs' (Andersen & Shirai 1994:133). In comparison with the earlier formulations, the influence of lexical aspect at the beginning of the acquisition process remains undisputed but it is no longer put in opposition to marking viewpoint aspect and tense. Consequently, claiming that tense is acquired before grammatical aspect (Dietrich *et al.* 1995) is in no contradiction with the aspect hypothesis as the initial influence of *lexical* aspect on the emergence of past morphology does not exclude tense.

The great majority of fotofu studies based their classification of predicates on Vendler's (1957) model (see section 2.3.3). Adopting the Vendlerian predicate categorisation enabled to integrate more specific predictions into the aspect hypothesis, namely that:

- Learners will initially restrict past or perfective marking to achievement and accomplishment verbs (those with an inherent endpoint) and later gradually extend the marking to activities and then states, with states being the last category to be marked consistently.
- In languages that encode the perfective/imperfective distinction, imperfective past appears later than perfective past, and imperfect past marking begins with states, extending next to activities, then to accomplishments, and finally to achievements.
- In languages that have progressive aspect, progressive marking begins with activities and then extends to accomplishments and achievements.
- Progressive markings are not incorrectly overextended to states.

(Andersen & Shirai 1996:553)

A large body of SLA research was conducted to test the aspect hypothesis including studies with individual learners (Robinson 1990), instructed learners of English (Bardovi-Harlig & Reynolds 1995) and of Japanese (Shirai 1998). For English as L2 it was generally shown that in early acquisitional stages '(1) past morphology is strongly associated with achievement and accomplishment verbs; and (2) *-ing* is strongly associated with durative verbs, with activity verbs receiving more *-ing* marking' (Andersen & Shirai, 1996:543). The correlation between lexical aspect and emerging morphological marking of grammatical aspect and tense was found far stronger if both L1 and L2 have grammatical aspect (such as Spanish and English) than if one from the language pairs lacks overt perfective – imperfective distinctions (e.g. Dutch). In sum, results of tests with various L1-L2 pairs lent notable support to the influence of lexical aspect on

the acquisition of morphological markings linked to verbs in the past. They have shown that verbal morphemes linked to pastness and perfectivity initially emerge with achievements and accomplishments and later with activities and states. Concerning verbal morphemes related to imperfectivity, their gradual appearance follows the inverse order, activities being marked most frequently. As verbal morphology marking tense and viewpoint aspect is not naturally used in isolation, a number of researchers in the fotofu approach considered how it relates to discourse structure.

The *Discourse hypothesis* is the second central premise in the fotofu framework, claiming relationship between discourse structure and tense-aspect morphology in interlanguage. This claim originates in an L1 study of how different native speaker groups mark aspect in narratives (Hopper 1979). Hopper proposed the idea that ‘one typically finds an aspect marker specialised for foregrounding e.g. perfectivity and one for backgrounding e.g. imperfectivity’ (1979:239). The temporal criteria for foregrounding can be summarised as follows:

- *Narrativity* – only textual units whose order matches the order of the events they report can serve as foreground.
- *Punctuality* – units reporting punctual events can serve more easily as foreground than units reporting durative, repetitive or habitual events.
- *Completeness* – a report of a completed event can serve more easily as foreground than a report of an ongoing event.

Reinhart (1984:780)

Based on Hopper’s idea, Kumpf (1984) looked into the connection between aspectual markers of L2 learners and the *grounding* in the narrative. His

observations contributed to the formulation of the discourse hypothesis which predicts that ‘learners use emerging verbal morphology to distinguish foreground from background in narratives’ (Bardovi-Harlig 1994b:43). Flashner’s (1989) study supported this prediction by finding that Russian learners of English in oral narratives marked foreground mainly by simple past and background mainly by bare infinitives. Bardovi-Harlig (1998) examined larger learner samples of both written and oral narratives; and also reported that past simple marking appears first and is more linked to the foreground while progressive only appears in the background. Innovatively, the latter study set out to investigate how lexical aspect and grounding together influence the distribution of verbal morphology. Lexical aspect and grounding had earlier been treated as two separate areas so that variables could be isolated and potential effects tested independently. However, the results in Bardovi-Harlig (1998) showed that durative nonpunctual verbs are more frequently inflected for past in the foreground than in the background. These findings were interpreted as empirical evidence that the factors of lexical aspect and grounding interact in second language acquisition; and that both the aspect hypothesis and the discourse hypothesis may be supported using one data source.

Further arguments for the interrelation between the two hypotheses concerned the overlap of features which determine grounding and lexical aspect. Shirai & Andersen (1995) defined the prototypical features of the past as [+past +telic +punctual +result]. Bardovi-Harlig (1998) found support for the claim that past naturally most attracts the aspectual class with which it shares the most features, i.e. achievements [+telic +punctual +result]. However, problems with the discourse hypothesis arose when different task types in L2 were analysed. Von

Stutterheim (1991) observed that the temporal relations in early German narratives are exactly opposite to those in descriptions. Namely, while the foreground in German narratives is characterised by a shift-in-time relation moved forward by bounded events, the structure of the foreground in descriptions is a sequence of temporally unbounded states implying the maintenance of the given temporal frame. This contrast between foregrounding in narratives vs. descriptions clearly posed a complication for the Discourse hypothesis. To tackle this problem, von Stutterheim & Klein (1989) suggested taking not the formal devices but the underlying concepts as the basis for analysing temporality in interlanguage.

2.4.3 Function-to-form studies and the Quaestio model

Function-to-form (futofo) research focuses on examining the range of linguistic devices used for the expression of a particular concept (Klein & von Stutterheim, 1987). This line of research significantly contributed to the study of temporality by expanding the fotofu-dominant focus on morphological systems to grammatical, lexical and pragmatic means. The most influential work on temporal expression in SLA using the concept-oriented approach was conducted within the European Science Foundation (ESF) project (Klein & Perdue 1992). This voluminous study consisted of a systematic two-and-a-half-year long monitoring of the acquisition process in adult learners. Its database comes from longitudinal studies of four learners in each of the ten language pairs illustrated in Figure 2.3.

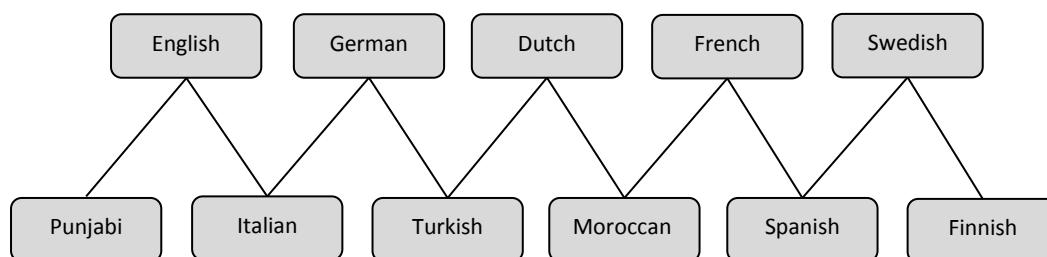


Figure 2.3 Language pairs in the ESF project, with learners' source languages in the bottom row and the target languages on the top (adapted from Dietrich *et al.* 1995)

Three main research questions guided the investigation in the ESF studies, namely (a) how learners express temporality at a given stage of their acquisition process; (b) how learners proceed from one stage to the next; and (c) what are the explanatory factors that can account for the form and function at a given time and for the development towards target-like use. Two oral elicitation techniques, a film retell task and a conversational interview served to collect learner data. Subsequent analyses identified three main developmental stages in the acquisition of temporal expressions, the *pre-basic varieties*, the *basic variety* and the *post-basic varieties* (Dietrich *et al.* 1995:263). In brief, these stages follow a sequence starting with expression of time by (a) pragmatic means (i.e. discourse principles such as natural order); then by (b) lexical means (i.e. temporal adverbials or connectives); and finally by (c) grammatical means (i.e. verbal morphology). As basic level learners constitute one of the focus groups in this work, the following step summarises the criterial features that distinguish the basic variety from pre-basic and post-basic varieties.

The *pre-basic varieties* are the earliest stages for establishing temporal reference in discourse, accomplished predominantly by pragmatic means. Dietrich

et al. (1995) suggest a set of four properties that characterise this stage: (a) no functional inflection, (b) bare lexemes (nouns, verbs, adjectives etc.), (c) very few complex constructions (if they appear, they are related together on the basis of pragmatic principles, mainly via natural order), (d) heavy dependence on context (implicit contextual reference) and reliance on the contribution of other speakers (scaffolding).

The *basic variety* is a developmental stage in which learners typically exploit lexical means to refer to time. Dietrich *et al.* (1995:265) summarise this stage as follows: (a) emerging temporal adverbials; (b) for English as L2, lexical verbs are in bare forms (V0), optionally in V+ing forms; and (c) some lexical boundary markers (usually verbs such as *start, begin, finish*). Some researchers regard the basic variety to be the representation of the essential properties of the human language capacity and the initial fossilisation point (Klein & Perdue, 1992). Learners however, at least some, develop beyond this stage and acquire language-specific grammatical devices such as case marking and verbal inflection to refer to time.

The *post-basic varieties* also share some similarities in both formal and functional use (Dietrich *et al.* 1995:270-271). Characteristic features of this stage include: (a) formal variation precedes functional use (e.g. the learner uses V0 and V+ing without a recognisable functional contrast); (b) irregular morphology precedes regular morphology (i.e. regardless of the semantic category of the verb, irregular verb inflections appear before simple regular morphology which initially tends to be overlooked); and (c) grammatical marking of tense emerges before

grammatical marking of aspect (including languages where viewpoint aspect can only be marked by periphrastic constructions).

Classification and analyses of learner varieties within the futofu approach needed a systematic solution to deal with the challenge that various task types (narratives vs. descriptions) have different impact on organisational principles. The quest for a satisfying account of how temporal information is selected and distributed in dependence on task type led to the development of the *Quaestio model* (designed by Klein and von Stutterheim 1987). The basic premise of this semantic model of discourse structuring is that all selected information in a contextual verbalisation process is perspective-driven; i.e. selection of a particular perspective affects the verbalisation processes of possible domains of reference (time/events, space and person) and guides the output to form an organised structure so that it fully answers the main question – the Quaestio. More concretely, the organisation of temporal relationships in narrations, route directions or instructions of use etc. (with the underlying quaestiae being: *What happened? How to get there? How to manipulate X?* respectively) tends to follow different patterns with respect to information selection, its segmentation into propositional units, content location within an appropriate temporal frame, and other. It means that the quaestio imposes particular constraints on how the speaker's background knowledge combined with temporal features is put into words (e.g. static vs. dynamic verbs, present vs. past tense), how this information is then used to form sentences (e.g. topic-focus partition), and eventually how sentences are organised in discourse. The current work employs the Quaestio model in tandem with the BTS as instruments for tracking down preferred patterns

of temporal information organisation in the discourse of native speakers and L2 learners.

2.5 Conclusion

This chapter provides information on the theoretical framework adopted for examining the processes of segmentation, selection, structuring and linearization of temporal information in discourse. It specifies the role of each macro- and micro-planning process; synthesises assumptions from directly related hypotheses and supports them with relevant empirical findings; explains the advantages of employing the BTS as the main analytical tool; and acquaints the reader with prominent trends and developments in SLA research on temporal reference.

Chapter 3

Temporal reference in the source and the target languages

3.1 Introduction

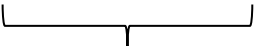
One of the underlying common features across the three examined linguistic systems is adherence to the principle of *temporal unidirectionality*, i.e. it holds that for two points on the time line that do not coincide, one is unambiguously earlier and the other is later (Haspelmath 1997). Further shared features include components of the BTS, i.e. two time spans have the possibility of inclusion, succession, proximity, duration, segmentability and origo (Klein 1994). It means that in communicating temporal information in Czech, English and Hungarian, interlocutors may automatically rely on having mutual understanding of these notions for deriving inferences and forming interpretations.

However, there are also significant differences in organising temporality across the three systems. Perhaps the most striking contrast lies in encoding the relation between topic time (TT) and situation time (TSit), which, as defined within the BTS, is the main role of grammatical aspect. A summary of the most prominent differences associated with grammatical aspect is illustrated in Table 3.1. As becomes evident later in this thesis, these contrasts play a key role for

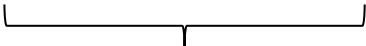
second language learners in acquiring target-like patterns of structuring temporal information in discourse.

Table 3.1 Overt marking of grammatical aspect in Czech, English and Hungarian

	Grammaticalised Imperfective	Grammaticalised Perfective	Past Perfect	Present Perfect	Future Perfect
Czech	+	+	-	-	-
English	+	-	+	+	+
Hungarian	-	-	-	-	-



Pure aspectual marking



Combination of tense
and aspectual marking

Grammaticalisation is defined as the linguistic process of developing grammatical morphemes from lexical items. This is the case when morphemes gradually become used in an ever-growing variety of environments until they constitute an integral part of the core grammar of a language (cf. Bybee *et al.* 1994). Supported with examples in the languages concerned, the following subsections will advocate the idea that the process of developing grammatical means to mark aspectual distinctions has gone the longest way in Czech, followed by English and Hungarian respectively.

Before discussing typological features of temporality, another important terminological specification needs to be made about aspect. As justified in chapter 2, Aktionsart (encoding (a)telicity) will be distinguished from grammatical aspect (encoding (im)perfectivity). While the notion of telicity will be associated with the lexical features inherent in the verb, perfectivity will be treated here as a purely grammatical category. The distance between these two notions is small in many

respects because, as it will be shown, they can closely interact at the level of expression. Nevertheless, following Smith (1997), Klein (1994) and Schmiedtová & Flecken (2008), this work will treat telicity and perfectivity as two different layers of linguistic analysis.

It also needs to be pointed out that the range of devices analysed in the following chapters is limited to explicit temporal means, leaving the role of implicit means, such as (a) extra-linguistic shared world knowledge and (b) contextual cues, beyond the scope of investigation. Even explicit means are not analysed in their entirety. They form a group of overtly marked expressions of temporality, which can be differentiated as (a) explicit temporal and (b) explicit atemporal means. In the case of explicit temporal means (e.g. time adverbials, morphological marking of tense and aspect), the expression of temporal relations, such as simultaneity or sequentiality, is part of their meaning. On the other hand, explicit atemporal means (e.g. perception verbs, spatial expressions) do not express temporality independently but only in interaction with context or shared world knowledge. Owing to their heavy contextual dependence, explicit atemporal means can be placed as a category between explicit temporal and implicit temporal means on an explicit-implicit continuum.

Intriguing as the domains of implicit temporal and explicit atemporal means certainly are, the present chapter limits its focus to scrutinising the use and functions of explicit temporal means. The main reason is that while the two former categories can be viewed as largely analogous crosslinguistically, the latter category exhibits very distinct language-specific properties. Understanding their

typical manifestations in the three languages is considered crucial in order to answer the research questions addressed in this study.

The sources used for describing temporal organisation per language include a combination of standard accounts (Karlík *et al.* 1995 for Czech; Huddleston & Pullum 2002 for English; Kiefer & Bakró-Nagy 2006 for Hungarian) and examples from language in use found in national corpora (the British National Corpus (2007) for English, Český Národní Korpus (2006) for Czech, and Magyar Nemzeti Szövegtár (2006) for Hungarian).

3.2 Typological features of explicit temporal reference in Czech

Czech, alongside Slovak and Polish is a West Slavic language with a rich system of morphological marking which plays an important role in temporal reference. The following steps look at the manifestations of explicit temporal means, i.e. aspect, tense and time adverbials, in the Czech language. Besides a concise description of their formal and functional properties, these means will mainly be examined in their interrelation and with emphasis on areas where cross-linguistic contrasts with English are most pronounced. This is in order to identify potentially challenging steps for L2 learners on their way to native-like use of temporal structures in the target language. Numerous studies on L2 acquisition have shown (overview in Chapter 2) that one of the most complicated areas for learners is to acquire the target-like linkage between TT and TSit, which in many languages hinges on aspectual marking.

Having established that the aspectual oppositions of Czech Perf vs. Imperf do not stem from the notion of completion, the following step questions the possibility of distinguishing between Perf and Imperf on the basis of overt formal marking. It will be shown that formation of aspectual pairs purely via morphological means does not apply to the full range of Czech verbs. Consequently, the Perf vs. Imperf difference cannot be viewed as entirely grammaticalised in the Czech system. To support this view, let us take a look at the sum of possible Perf-Imperf combinations (cf. Schmiedtová 2004, 32-37).

- *Simplex Perf and simplex Imperf pairs*

In a few cases an aspectual pair is formed by means of morphologically unmarked (i.e. simplex) Perf and Imperf verbs such as *létat/letět* ‘to fly/to be flying’, *běhat/běžet* ‘to run/to be running’. In addition, there are a couple of suppletive pairs in this category, such as *položít/klást* ‘to put/to be putting’.

- *Verbs without aspectual pairs*

Modal verbs (e.g. *smět/may*, *moci/can*), similarly to English, and some stative verbs (e.g. *milovat/to love*, *viset/to hang*) are also known as *imperfectiva tantum* as they lack perfective partners. Likewise, there is also a group of verbs with no imperfective counterparts (e.g. *nadchnout/to inspire*, *vzpružit/invigorate*), also known as *perfectiva tantum*.

- *Simplex Imperf and derived Perf pairs formed by prefixation*

In the majority of cases the relation between aspectual pairs in Czech can be seen as derivational. One of the most productive processes is perfectivising

prefixation¹. The problem with this process for a clear-cut Perf vs Imperf distinction is that adding a prefix not only modifies aspectual properties but in most cases also the lexical properties of the verb. Influence of prefixation on the derived pair ranges between (a) pure aspectual change, as in *psát/napsat* ‘to be writing/to write’; (b) moderate lexical change, as in *pálit/zapálit* ‘to be burning/to light up’, *lít/rozlít* ‘to be pouring/to spill’; and also (c) cases where the new lexical meaning is impossible to be derived compositionally, such as in *vést/dověst* ‘to be leading/to be capable of’; or *předvést*/to perform. One and the same prefix can be related to various Aktionsarten (e.g. forming an inchoative verb in *plakat/rozplakat se* ‘to be crying/to start crying’ or an accomplishment in *trhat/roztrhat* ‘to be tearing/to tear up’). Remarkably, some low-frequency prefixes in Czech do not have a perfectivising effect (e.g. *náležet* ‘to pertain to’, *padělat* ‘to counterfeit’, *záviset* ‘to depend on’).

- *Simplex Imperf and derived Perf pairs formed by suffixation*

The suffix *-nou* is used to form a derived Perf verb from a simplex Imperf verb, as in *mávat/mávnout* ‘to be waving/to wave once’. Unlike perfectivising prefixation, perfectivising suffixation does not bring about any change in the lexical meaning of the verb. It results in a purely aspectual contrast achieved by morphological means.

¹ The Czech language distinguishes a wide range of perfectivising prefixes, which include: *do-*, *na-*, *nad(e)-*, *o-*, *o/ob(e)-*, *od(e)-*, *po-*, *pod(e)-*, *pro-*, *pře-*, *před(e)-*, *při-*, *roz(e)-*, *s(e)-*, *u-*, *v(e)-*, *vy-*, *vz(e)-*, *z(e)-*, *za-* (Karlík *et al.* 1995:199-217).

- *Simplex Perf and derived Imperf pairs formed by suffixation*

For a small group of verbs, the suffix *-va* is used to derive Imperf pairs from simplex Perf verbs, as in *koupit/kupovat* ‘to buy/to be buying’, and to signal that the action expressed by the verb is ongoing. The *-va* suffix is the only pure marker of ongoingness in Czech. Imperfectivising suffixation with *-va* does not change the verb’s lexical meaning and thus represents systematic grammatical aspectual pair formation. The occurrence of simplex Perf verbs is infrequent, hence the small size of this pair combination.

- *Derived Imperf and derived Perf pairs*

A widespread technique for forming aspectual partners is to pair a derived Perf (made via prefixation) with a derived Imperf (made via suffixation), as in *rozšířit/roz-šiřo-va-t* ‘to spread/to be spreading’. It should be pointed out that imperfectivisation by means of *-va* suffix can invoke habitual interpretation. For these cases the present work follows Filip and Carlson (1997: 103) and Schmiedtová (2004: 34), advocating that ‘[...] although imperfective sentences can have a contextually induced generic/habitual reading, genericity is a category *sui generis*, formally and semantically independent of the imperfective category’. Thus, the generic reading of *-va* suffix is not examined in detail in this work.

- *Ambiguous Perf-Imperf verbs*

Verbs like *obětovat* ‘sacrifice’, *věnovat* ‘dedicate’, or *diskvalifikovat* ‘disqualify’ do not fall into either the Perf or Imperf category when considered in isolation. Contextual cues are needed to assign a specific aspectual interpretation for verbs

of this type. Ambiguous Perf-Imperf verbs constitute only a very small part of the Czech lexicon.

As outlined, pure aspectual pairs in Czech can be derived merely for a particular subgroup of verbs that allow modification via processes of (a) imperfectivising suffixation with *-va*, and (b) perfectivising suffixation with *-nou*, both of which have no influence on the verb's lexical semantics. Since a more common pair-forming process, i.e. perfectivising prefixation, not only modifies the aspectual properties but also largely influences the lexical meaning of verbs, aspectual marking in Czech cannot be analysed as pure formal marking.

Two identified problems with the traditional approach for aspectual analysis in Czech, namely (a) taking completion as the central notion for distinguishing Perf vs. Imperf, and (b) distinguishing between Perf and Imperf only on the basis of overt formal marking; are taken as sufficient signals for adopting a more operational analytical framework for the present work.

As advocated in section 2.3.3, the time-relational framework considers aspect as a temporal relation between TT and TSit. The following step illustrates possibilities of linking TT and TSit in Czech. Aspectual options in Czech are built on the opposition of perfective vs. imperfective. Neither perfect nor prospective aspects are present.

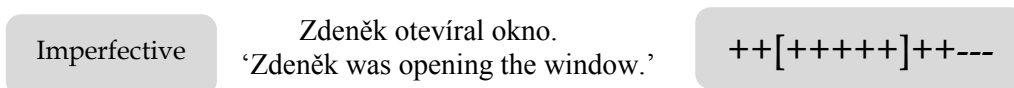


Figure 3.1 Imperfective aspect expressed as a relation between TT and TSit

Imperfective aspect, as shown in figure 3.1, signals proper inclusion of TT in TSit (the string of plus symbols ++++ refers to TSit, square brackets [] to TT and the dashed line ----- to the time after TSit, i.e. the posttime of the situation).

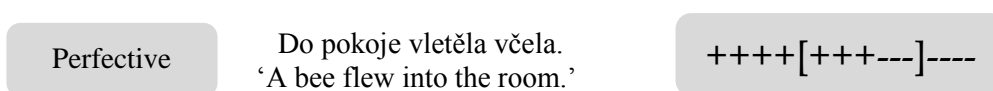


Figure 3.2 Perfective aspect expressed as a relation between TT and TSit

In the perfective aspect, TT is partly included in TSit and also partly in the posttime of the situation. Perfective aspect is bound to embrace the changing point from situation time to posttime (as in Figure 3.2). Therefore, reference to an endpoint is always involved.

3.2.2 Interaction of tense and aspect in Czech

The following step is to sketch the relationship between Czech aspect and tense. Aspect in Czech is less combined with tense than in English, which becomes obvious as soon as we try to find Czech equivalents for the English perfect and prospective. Since perfect and prospective aspects are absent in Czech, other means (such as time adverbials) are employed for reference to posttime (interval after the endpoint of a situation) and pretime (interval before the starting point of a

situation) in event-construal. The Czech system of tenses in interaction with aspect types is surveyed in table 3.2.

Table 3.2 Combinations of tense and aspect in Czech

	Imperfective	Perfective
Past tense	<i>Jana četla časopis</i> 'Jana was reading a magazine'	<i>Jana přečetla časopis</i> 'Jana read a magazine'
Present tense	<i>Jana čte časopis</i> 'Jana is reading a magazine'	-
Future tense	Periphrastic future <i>Jana bude číst časopis</i> 'Jana will be reading a magazine'	Simple future <i>Jana přečte časopis</i> 'Jana will read a magazine'

Verbs in Czech have to be marked as Perf or Imperf in all tenses. Two additional rules apply. Firstly, verbs in imperfective aspect appear in three tense forms but compound (periphrastic) future forms (e.g. *bude číst*) can only be derived for imperfective aspect and combinations such as (3) are ungrammatical.

(3) **Jana bude přečíst*
 J-Nom be-Fut-3sg Perf-read

Secondly, another constraint is that perfective aspect restricts derivation to only two tense forms. This constraint stems from the logic of mutual exclusivity generally associated with perfectivity and present tense. However, it is a matter of particular importance that this rule is not necessarily true for Czech simple future perfective forms, which are able to induce present tense *here-and-now* interpretation (cf. Schmiedtová & Flecken 2008), as in example (4).

- (4) *Václav* *vy-pije* *pivo*
 V-Nom Perf-drink-Present-3sg beer-Acc
 ‘Václav drinks (a) beer (up)’

Czech employs grammatical aspect (encoding perfectivity) for situations like in (4). By contrast, English deals with reference to endpoint in a situation described by [drink up beer] via lexical aspect (encoding telicity), i.e. by means of the *up* particle. Distinct properties related to grammatical vs. lexical aspect are likely to prove challenging for Czech speakers acquiring English as L2.

Further cross-linguistic form-function mapping differences include, inter alia, the asymmetry of expressing perfectivity in verbal nouns. While Czech can distinguish aspect in verbal nouns grammatically, e.g. *psaní* (Imperf) ‘the process of writing’ vs. *dopsaní* (Perf) ‘the process of writing up’, English uses lexical constructions to express this kind of contrast, i.e. ‘writing’ (Imperf) vs. ‘writing up’ (Perf). Asymmetries like the ones shown may present complications for L2 learners on their way to target-like use of temporal structures.

3.2.3 *Czech temporal adverbials*

Possibilities of establishing relations between TT, TSit and TU by means of TADVs in Czech, like in many languages, greatly exceed the repertoire of options to express temporality via tense and aspect. A large overlap can be observed between Czech and English TADV systems (categorisation introduced in section 2.3.4) regarding both their forms and functions.

The form of Czech TADVs, similarly to English, varies between (a) simple (*pak/then, často/often*); (b) morphologically compound (*před.nedávnm/recently,*

po.tom/ afterwards, *dříve/sooner*); and (c) syntactically compound adverbials. Within the latter group, further subdivisions are possible, namely into subcategories of (i) bare noun phrases (*příští jaro/next spring*, *celý měsíc/the whole month*); (ii) prepositional phrases (*za okamžik/in a moment*, *po sto letech/after a hundred years*); (iii) subordinate clauses (*kdykoliv chceš/whenever you want*, *když mi bylo patnáct/when I was fifteen*); and also (iv) combined constructions (*hned po válce dva roky na vojně/right after the war for two years in the army*). In contrast with English, there is no occurrence of postpositional TADVs (e.g. ‘couple of months ago’). Instead, Czech employs prepositional equivalents (e.g. *před pár měsíci*).

Functionally, four TADV types (as categorised in Klein 2009b) can be distinguished, namely TADVs of (a) position; (b) duration; (c) frequency; and (d) contrast. Czech positional TADVs specify temporal relations between two time spans such as (a) TT before TSit, e.g. *před devíti lety/nine years ago*; (b) TT simultaneous with TSit, e.g. *zároveň/at the same time*; (c) TT after TSit, e.g. *následně/thereafter*. Durational adverbials can either refer to time intervals vaguely (e.g. *na chvíli/for a while*) or exactly (e.g. *během půlhodinové jízdy/during the half-hour drive*). Similarly, adverbials of frequency can be divided in the same way into vague (e.g. *čas od času/from time to time*) and exact variations (e.g. *každou neděli večer v devět/every Sunday evening at nine*).

A notably interesting parallel can be found between the Czech and the English uses of adverbial *vždy* ‘always’, which in both languages is ambiguous between the durational meaning (a) *po celou dobu* ‘all the while’; and the meaning

expressing frequency (b) *při každé příležitosti* ‘on every occasion’. Although the former meaning may seem to be the primary one, it is the latter that surfaces with higher frequency in both languages. To check the validity of this claim, I conducted a small-scale crosslinguistic comparison. Disambiguation of fifty random solutions for the search /*vždy*/ in the Czech National Corpus (2006) and /*always*/ in the British National Corpus (2007), assisted by contextual cues, showed that the majority of meanings expressed by *vždy* in Czech as well as by *always* in English (68% for Czech, 72% for English) correspond to the meaning [on every occasion].

However, adverbials of contrast such as *already, again, still, yet* (some of their nearest Czech equivalents being *už, znovu, pořád, ještě* respectively) present a much less clear-cut temporal category for a cross-linguistic comparison due to complexity in their functions within individual languages. It has been argued that most complications in these cases are due to varying scope (Klein 2009b: 67).

3.3 Typological features of explicit temporal reference in Hungarian

Hungarian is a Uralic language with an agglutinative system known for its rich repertoire of verbal affixes (most of which are suffixes) with a range of phonetic forms conforming to the rules of vowel harmony. Affixes together with postpositions (Hungarian has no prepositions) have an indispensable role in expressing temporal relations. Nevertheless, temporal reference in Hungarian rests on a network of interrelations between a variety of explicit means (such as time adverbials) and covert means (such as aspect).

3.3.1 Hungarian aspect

Grammatical aspect in Hungarian is considered to be a generally covert temporal concept (cf. Csirmaz 2004) which only surfaces exceptionally, for specific verb types. The absence of overt perfective vs. imperfective distinction is evident in simple verb forms that readily allow both interpretations in a number of environments. One manifestation of aspectual ambiguity related to simplex verbs arises in event construal with two subevents as shown in (5) and (6).

- *Ambiguous simplex verbs*

Simplex verbs can express both (a) imperfectivity - when the main event has simultaneous reading with the subordinate event like in (5); and (b) perfectivity - when two events have sequential reading like in (6). The relevant readings in (5) and (6) are indicated via time adverbials.

(5) *Amikor az anya megérkezett, a gyerek (éppen) játszott.*
 when the mother arrived-3sg, the child just.then played-3sg
 ‘When the mother arrived, the child was playing.’

(6) *Amikor az anya megérkezett, a gyerek (rögtön) játszott.*
 when the mother arrived-3sg, the child straight.away played-3sg
 ‘When the mother arrived, the child played straight away.’

In other words, the same simplex verb form can denote that the TT of the main event overlaps with the TT of the subordinate event as in (5), and in an identical environment it is also able to denote that the TT of the main event (the time of playing) follows the TT of the subordinate event (the time of arrival) without any overlap as in (6).

- *Particle verbs denoting Perf vs. Imperf contrast*

Particle verbs in Hungarian generally express Perf vs. Imperf contrast by the position of the particle in relation to the verb. Perf constructions are characterised by the particle directly in preverbal position (7), whereas in Imperf constructions the particle is located immediately after the verb (8).

(7) *A szomszédok (három óra alatt) szétPARTICLE szedték a kerítést.*
 the neighbours three hour under apart.picked-3pl the fence-Acc
 ‘The neighbours disassembled the fence in three hours.’

(8) *A szomszédok (három órája) szedték szétPARTICLE a kerítést,*
(amikor besötétedett).
 the neighbours three hour-Poss picked.3pl apart the fence-Acc
 when in.darkened-3sg
 ‘The neighbours were disassembling the fence for three hours when it got dark.’

The construction in (7) is compatible with an *in*-type adverbial (*in three hours*), which is commonly used as a test for perfectivity. In other words, in this example TT clearly includes TSit. Example (8) features a construction compatible with a *for*-type adverbial (*for three hours*), generally used for diagnosing imperfectivity. What it means in time-relational terms is that in (8) the topic time corresponding to the interval expressed by [got dark] is fully included in the time of the situation denoted by [neighbours disassembling fence]. Hungarian possesses an extensive inventory of particle verbs², the majority of which share distributional features illustrated in (7) and (8).

Interestingly, Hungarian not only allows Imperf but also Perf structures with particle verbs in postverbal position. This is the case exhibited in Perf focus

² The most frequent verbal particles in Hungarian are *be* ‘in’, *ki* ‘out’, *le* ‘down’, *fel* ‘up’, *el* ‘away’, *át* ‘through’, *rá* ‘upon’, *ide* ‘here’, *oda* ‘there’, *szét* ‘apart’, *össze* ‘together’, *vissza* ‘back’, *végig* ‘to the end’ (Kiefer & Bakró-Nagy 2006).

structures, which appear identical with Imperf structures, see (9) and (8) for a comparison. Such close resemblance of Perf and Imperf forms is brought about by the structure of Hungarian, placing focus into directly preverbal position. Focus constructions will not be further elaborated.

- (9) *A SZOMSZÉDOK* *szedték szét*PARTICLE *a kerítést.*
 the neighbours picked.1pl apart the fence-Acc
 ‘It was the neighbours who disassembled the fence.’

- *Particle verbs not denoting Perf vs. Imperf contrast*

Some particles have restricted distribution and they appear exclusively in Perf contexts. One such example is the particle *meg*, which is used to signal result or an endpoint (10) and thus places TSit fully within TT. Hungarian has no counterpart for *meg*, which would signal ongoingness. Compatibility of *meg* particle with Imperf contexts is ruled out as it yields ungrammatical results (11).

- (10) *Balázs* *meg*PARTICLE *sütötte* *a kenyeret.*
 B-Nom Perf baked-3sg the bread-Acc
 ‘Balázs baked the bread.’

- (11) **Balázs* *sütötte* *meg*PARTICLE *a kenyeret* (*amikor* *a meccs* *elkezdődött*).
 B-Nom baked-3sg Perf the bread-Acc when the match started-3sg
 ‘Balázs was baking the bread (when the match started).’

There is another group of particles which are not endpoint-denoting like *meg* but can also occur strictly in preverbal position. This is true for particles that form verb constructions with idiomatic meaning, such as *át*PARTICLE *ver* (through beat ‘trick someone’), *le*PARTICLE *mond* (down tell ‘abdicate’) or *ki*PARTICLE *merül* (out dip ‘become tired’).

In sum, the majority of predicates in Hungarian does not mark the link between TT and TSit overtly. Verbal particles are an exception. They solve the Perf vs. Imperf ambiguity by appearing in preverbal position with perfective aspect and in postverbal position with imperfective aspect. While the former configuration is used to express that TSit is included in TT, the latter encodes the full inclusion of TT in TSit. One of the exceptions is represented by particle *meg*, which can be associated purely with perfective aspect and (disregarding negation, focus and interrogative constructions) only appears preverbally. Another type of particle that has restricted distribution to preverbal position are particles with idiomatic interpretation. The next step takes us from solely aspectual considerations to looking at how aspect interacts with tense.

3.3.2 *Interaction of tense and aspect in Hungarian*

In brief, Hungarian distinguishes two tenses, [+past] and [-past]. Non-past forms are often labelled as *present tense forms*. Expressing the relation [TT before TU] is accomplished via past forms derived from present forms using suffixes *-t/-ott/-ett/-ött* (e.g. *ül* ‘sits/is sitting’, *ült* ‘sat/was sitting’; *lát* ‘sees/is seeing’, *látott* ‘saw/was seeing’). With the notable exception of *lenni* ‘to be’, which appears in 3 tense forms: past (*volt* ‘was’), present (*van* ‘is’) and future (*lesz* ‘will be’), most verbs conform to the past vs. non-past distinction. The perfect and the continuous tense forms disappeared from use around the end of the 19th century. Futurity, i.e. [TT after TU], is commonly referred to in one of the three ways: (a) periphrastically, by means of the auxiliary *fog* plus infinitive (e.g. *fog telefonálni*

‘(s)he will call/will be calling’; (b) by future tense form – exclusively for the verb *lenni*; and (c) by present tense forms.

The structural property of Hungarian that present tense forms can denote both present situations [TT incl TU] and future situations [TT after TU] is directly linked to aspectual contrasts. Namely, as Csirmaz (2004:5) points out: ‘the present tense form can either denote a present ongoing event or a future/habitual one’. Even without taking the habitual reading (category *sui generis*) into consideration, the same simplex form, as illustrated in (12), is ambiguous between (a) imperfective present reading – with TT included in TSit; and (b) perfective future reading – with TT including TSit.

- (12) *a kutya ugat*
 the dog bark-3sg
 ‘The dog is barking’ (TT in TSit – Imperf)
 ‘The dog will bark’ (TSit in TT – Perf)

To sum up, Hungarian can be characterised as a language largely without explicit differentiation of Perf vs. Imperf categories by means of tense or grammatical aspect. Even if there are some instances where the Perf vs. Imperf distinction is overtly marked this way, i.e. particle verbs, alternative means are often employed to resolve aspectual ambiguities. One alternative within the realm of explicit means that help to specify TT-TSit relations are temporal adverbials.

3.3.3 Hungarian temporal adverbials

Klein's TADV (1994) classification is also largely applicable to Hungarian adverbials. In terms of some minor formal differences from English, equivalents of English prepositional TADVs in Hungarian are either derived via suffixation or expressed postpositionally. The formal and functional properties of Hungarian TADVs can be more or less categorised like those in English (table 3.3).

Table 3.3 Categorisation of temporal adverbials in Hungarian based on form and function

Form	Function
Simple	Anteriority
<i>most, soha, gyakran, majd</i> 'now, never, often, then'	<i>három évvel ezelőtt</i> 'three years ago'
Morphologically compound	Simultaneity
<i>hamarabb, rendszeresen, ötször</i> 'sooner, regularly, five times'	<i>ugyanakkor, egyszerre</i> 'at the same time, simultaneously'
Bare noun phrases	Posteriority
<i>jövő vasárnap reggel</i> 'next Sunday morning'	<i>rövid szünet után</i> 'after a short break'
Postpositional phrases	Duration (vague vs. precise)
<i>néhány perc múltán, egyetlen pillanat alatt</i> 'some minutes later, in a single moment'	<i>jó ideje vs. még további húsz másodpercig</i> 'for a good while' vs. 'for another twenty seconds'
Subordinate clauses	Iterativity (vague vs. precise)
<i>amióta ember létezik</i> 'since the dawn of man'	<i>időnként vs. mindennap este nyolckor</i> 'once in a while' vs. 'every day at 8pm'
Combined constructions	Contrast
<i>amikor először jártam itt 1956-ban</i> 'when I was here for the first time in 1956'	<i>már, megint, még mindig</i> 'already, again, still'

As for similarities, an interesting parallel between Hungarian and English (and also Czech, see section 3.2.3) can be observed with the use of adverbial *mindig* 'always'. Firstly, Hungarian also distinguishes between two readings of *mindig* meaning (a) quantification over all times as in *mindenkör* 'all the while';

and (b) at any relevant time as in *minden egyes alkalommal* ‘on every single occasion’. Secondly, the frequency of using ‘always’ in all three languages tends to be higher for expressing the idea ‘on every relevant occasion’. To support this claim, I used the Hungarian National Corpus (2006) to search for fifty random solutions for the expression *mindig*. Semantic disambiguation was accomplished with the help of a 20-word context for each searched item. Results showed that 60% of meanings expressed by *mindig* correspond to the meaning [on every relevant occasion]. Solutions for *még mindig*, with the meaning of ‘still’, were excluded from the count.

3.4 Typological features of explicit temporal reference in English

The ways in which English encodes temporal relations have undergone far more intensive scrutiny in the literature compared to Czech or Hungarian. Many features of temporality in English were already introduced in this work alongside explaining the Basic Time Structure (section 2.3.1) and clarifying the most known temporal devices (section 1.3). The present section is concise for this reason and is restricted to areas that are potentially of immediate relevance for learning English as a second language. Pointing out important aspectual similarities and differences between English and the two source languages will be the initial and the major step, followed by interaction of aspect with tense.

3.4.1 English aspect

Out of the three examined languages, English can be argued to have the most clear-cut system of aspectual marking. Simplex verb forms can be employed to denote perfectivity, *V+ing* forms serve to express imperfectivity, the perfect aspect is denoted by perfect forms and the progressive aspect by *going to* constructions.

Table 3.4 Grammatical expression of aspect in English

Aspect type	Example	TT-TSit relation
Imperfective	<i>Floyd is feeding the horse</i>	TT included in TSit
Perfective	<i>Floyd fed the horse</i>	TT includes TSit
Perfect	<i>Floyd has fed the horse</i>	TT after TSit
Prospective	<i>Floyd is going to feed the horse</i>	TT before TSit

As table 3.4 illustrates, *V+ing* is used to express full inclusion of TT in TSit, which induces the interpretation that Floyd is in the middle of feeding the horse. Having a specific marker for ongoingness that is generally applicable for most verb types is a property that clearly distinguishes English from Czech and Hungarian. The simplex verb form denoting perfective aspect means that TT is not only part of the situation time of Floyd's feeding the horse but it stretches also into the posttime of this situation.

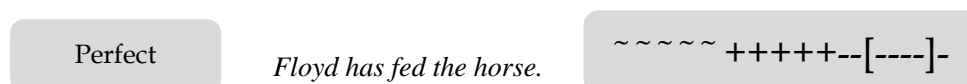


Figure 3.3 Perfect aspect expressed as a relation between TT and TSit

In the case of perfect aspect, TT is located fully in the posttime of TSit, as shown in figure 3.3 (the string of plus symbols +++++ refers to TSit, square brackets [] to TT, the dashed line ----- to the posttime and the string of tildes ~~~~ to the pretime of the situation).

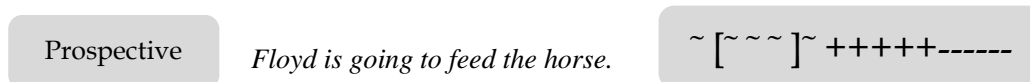


Figure 3.4 Prospective aspect expressed as a relation between TT and TSit

Prospective aspect marks the location of TT fully in the pretime of TSit, as shown in Figure 3.4, meaning that TT is placed before the time for which Floyd's feeding of the horse holds true. Besides the absence of prospective and perfect aspects in Czech and Hungarian, there is another asymmetry of expressing perfectivity in Czech and English, which the next step will demonstrate.

It can be recalled from discussion earlier that telicity and perfectivity represent two distinct layers of linguistic analysis and should therefore be treated differently. Following Schmiedtová & Flecken (2008), it is argued that the Czech aspectual system enables the expression of perfectivity for the present tense grammatically, unlike English. Let us examine this difference by considering examples (13) to (17).

(13) *He drank a beer*

Example (13) shows a telic predicate expressing an endpoint for the situation represented by [drink beer]. The Czech equivalent of (13) is provided in (14).

- (14) (On) *vy-pi-l* *pivo*
 He-Nom Perf-drink-Past-3sg beer-Acc
 ‘He drank (a) beer’

The Czech example in (14) also includes a telic predicate but, in addition to the English example (13), the verb is also overtly marked for perfective aspect. So while the Czech utterance subsumes two separate markings, i.e. telicity on the predicate and perfectivity on the verb, only the former can be found in the English utterance. This difference becomes more pronounced when switching (13) and (14) from past to present tense.

- (15) ?? *He drinks a beer*

Without further temporal or contextual specification (e.g. *He drinks a beer every evening*, which would induce habitual interpretation), the utterance in (15) is problematic to interpret. This utterance becomes well-formed for present tense by adding the *-ing* suffix, as in (16).

- (16) *He is drinking a beer*

In that case, however, the shift from original utterance (13) also involves a change from perfective to imperfective. By contrast, if a tense shift is accomplished in Czech, as shown in (17), the aspectual quality of the verb remains unaffected, and the rendered meaning is that the event of drinking will reach completion in the immediate future.

- (17) (On) *vypije* *pivo*
 He-Nom Perf-drink-Present-3sg beer-Acc
 ‘He drinks (a) beer (up)’

All in all, the Czech aspectual system allows both Perf and Imperf to be marked grammatically also in the present tense, which is evidently not the case in English. English, by contrast, does not distinguish aspectual opposition of verbal predicates such as *to drink up* grammatically (encoding Perf vs Imperf) but lexically via particle *up* (encoding telic vs. atelic). From this position, it would be reasonable to conclude that both aspects are more fully grammaticalised in Czech. However, a more comprehensive comparison shows that, unlike in English, aspectual modification commonly influences lexical properties of Czech verbs, and reveals that it is in fact the English aspectual system that is more transparent, thanks to the systematic marking of ongoingness with the V+ing form. The next step will be taken to explicate how grammatical aspect in English interacts with tense.

3.4.2 *Interaction of tense and aspect in English*

Using the example of perfect forms in combination with tenses, what follows is a demonstration of how grammatical encoding of temporal relations works as an interaction of two categories, i.e. tense and aspect, in English. The basic formal distinction of perfect simple is based on the auxiliaries *has* (for present perfect), *had* (for past perfect) and *will have* (for future perfect). As for functions, auxiliaries serve to specify the relations between TU and TT. A summary in Table 3.5 shows that the English future perfect grammatically expresses both (a) the TT of a given situation is located after TU and also (b) the TT lies in the posttime of a future situation.

Table 3.5 Interaction of English tenses with perfect aspect

Present perfect	TT includes TU	+	TT in the posttime of a present TSit
Past perfect	TT before TU	+	TT in the posttime of a past TSit
Future perfect	TT after TU	+	TT in the posttime of a future TSit

Analogously, the past perfect expresses that the TT of a given situation is located before TU and that this TT is in the posttime of a past situation. In contrast with English, these relations cannot be conveyed grammatically but only via periphrastic means (e.g. by time adverbials) in Czech and Hungarian.

3.5 Conclusion

The goal of this chapter was to survey some significant analogies and differences related to explicit temporal devices for encoding TT-TSit-TU relations in the three investigated languages. Restricting attention to grammatical aspect, tense and time adverbials was by no means intended to suggest any greater significance of these temporal devices compared to others not discussed here, such as Aktionsart or discourse-organisational principles. The choice was based on the assumption that Aktionsart and discourse-organisational principles may be more universal than tense, grammatical aspect and time adverbials. For the purposes of this study, the established contrasts in explicit temporal marking are deemed sufficient to formulate and test both cross-linguistic and acquisitional hypotheses associated with event conceptualisation during language production. Potential implications of the identified structural contrasts for L1 and L2 production are incorporated into hypothesis in the experimental chapters 5-8. The tense/aspect contrasts identified

in this chapter will be referred to and taken into consideration throughout the whole empirical part of this thesis.

Chapter 4

Informant characteristics, data elicitation material, procedure

4.1 Introduction

All choices regarding data elicitation material, participant recruitment, experimental procedure, coding and analyses were guided by the decision to thoroughly address the main research questions centred on temporal organisation in first and second language discourse. The coding system was developed to suit the needs of analysing temporal discourse cohesion in fully-fledged languages as well as in learner varieties. Systematic application of codes with a potential to illuminate the contribution and interaction of temporal markers on the sentence level and the discourse level received particular attention. On the sentence level, speakers need to consider semantic and syntactic factors to express situations with various temporal properties in well-formed grammatical utterances (Berman & Slobin 1994). On the discourse level, speakers have to regulate temporal information flow across utterances as a function of available mutual knowledge and communicative focus (Hickmann *et al.* 1994). For these reasons the analyses draw upon the temporal expressions in use, considering both intra-sentential and inter-sentential factors. An integrated approach also shows stronger potential for providing a richer picture for the processes in L2 acquisition, specifically in terms of determining which aspects of temporal reference in a developing L2 tend to be language-specific and which more universal. Among other analyses of learner

data, special emphasis is placed on how learners from typologically distant first languages combine linguistic means offered by the L2 for the expression of various temporal discourse-pragmatic functions. Examination of form-function combinations is based on a complementary use of quantitative statistical tests and qualitative analyses, following the idea that employing both of these equally important approaches yields a greater understanding of the observed phenomena and facilitates valid interpretation of results.

4.2 Informant characteristics

One hundred and fifty participants with normal or corrected-to-normal vision gave informed consent and were paid for participation in this study. Production data was elicited from three native speaker groups and four L2 learner groups, all groups with balanced gender distribution.

4.2.1 Native speakers

The L1 groups consisted of Czech native speakers (n=30, aged 19-50) tested in Prague, English native speakers (n=30, aged 18-54) tested in Cambridge UK, and Hungarian native speakers (n=30, aged 19-55) tested in Budapest and Debrecen. A short interview preceded each experiment to ensure that all participants included in the L1 groups had monolingual upbringing as well as education, and that Czech, English or Hungarian was their clearly dominant language at the time of testing. Their skills in other languages were limited to recreational use of basic phrases, and their exposure (through media and social interactions) was largely concordant with the main language of the given country of residence.

4.2.2 Advanced level learners

The advanced L2 groups consisted of 15 Hungarian and 15 Czech speakers of L2 English. All advanced L2 participants were either candidates for the Cambridge ESOL Proficiency Exam (having passed a trial test) or CPE certificate holders with an active daily use of English. Informants from the Hungarian advanced L2 group were proficient speakers of English recruited at International House Budapest and Katedra Language School Budapest (age range 23-36). Their average use of English spoken in a typical day at the time of testing was 47.3% (ranging between 30-70%; self-assessed), the mean age of onset of learning English in an instructed environment was 8.4 years (range 4-13), and the average time spent in an English speaking country 2.7 years (range 1-7). The 15 Czech advanced level speakers of L2 English (aged 19-43) were tested at International House Prague and British Council Prague. Their average use of English during a typical day at the time of testing was 46.0% (range 20-75%), the mean age of onset of learning English in an instructed setting was 8.8 years (range 4-14), and the average time spent in an English speaking country 2.5 years (range 0.8-12). A great majority were employed at the time of testing as teachers of English, some as English interpreters and translators.

Careful participant selection was considered to eliminate the risk that advanced L2 speakers' possible digressions from target-like performance can be caused by generally low L2 proficiency. Two English native speakers (qualified teachers of English) at each language centre were independently consulted to recommend participants they know well and that would pass as native speakers of English in everyday communicative contexts. In addition to their intuitive

judgements, the referees were asked to consider the highest level descriptors (C2) of the Common European Framework of Reference for Languages (CEFR) when recommending potentially native-like L2 speakers. The main relevant descriptors for spoken interaction include the abilities ‘to take part effortlessly in any conversation or discussion; to have a good familiarity with idiomatic expressions and colloquialisms; to convey finer shades of meaning precisely, to backtrack if needed and restructure so smoothly that other people are hardly aware of it’ (CEFR 2001:27). Only learners recommended by both referees were tested.

4.2.3 Basic level learners

The same language centres supplied informants for the basic level L2 groups, i.e. 15 Hungarian B1 level learners of English (aged 18-53) and 15 Czech B1 level learners of English (aged 18-50). Their active use of TL was 4 hours per week on average in an instructed setting. Outside classroom, the Hungarian B1 group’s average use of English in a typical day was 7.13% (ranging between 0-15%; self-assessed), the mean age of onset of learning English in an instructed environment was 19.2 years (range 12-35) and the average time spent in an English speaking country 4.2 weeks (range 0-28). As for the Czech B1 learners, their average use of English during a typical day outside classroom was 9.1% (range 0-25%), the mean age of onset of learning English in an instructed setting was 17.9 years (range 12-45), and the average time spent in an English speaking country 2.7 weeks (range 0-24).

The term basic level learners in this work denotes participants with L2 English allocated to B1 level General English classes based on their result in the

Oxford Placement Test 2 (Allan 2004)¹. Based on the observation that language production of the great majority of the tested B1 learners exhibits properties typical of the lexical rather than the morphological stage (Dietrich *et al.* 1995, Klein & Perdue 1992), the term *BV learners* is also deemed an appropriate label for this group. Some of the main B1 level descriptors for spoken interaction and production include the learners' ability 'to enter unprepared into conversation on topics that are familiar or pertinent to everyday life; to connect phrases in a simple way in order to describe experiences and events; to narrate a story; to give brief reasoning and explanations' (CEFR 2001:27). All these skills were important to successfully accomplish the two communicative tasks set.

4.3 Communicative tasks, data elicitation material and procedure

A precise account of the underlying principles for temporal information organisation preferred by native speakers of different languages requires a systematic comparison of carefully controlled tasks with constrained semantic reference (von Stutterheim & Lambert 2005). Also, eliciting comparable L1 samples for analyses of reference to time in a number of discourse dimensions largely depends on stimuli with the power to instigate language production including verbalisation of a rich network of temporal relations. Such a goal poses a complex verbal task requirement (Levelt 1989). To meet both these needs, the study presented here used film retelling (task one) and picture story description

¹ Throughout this dissertation, the term *basic level learner* is used in its wider sense, i.e. fully embracing the developmental stage characterised as *basic variety* (Dietrich *et al.* 1995, Klein & Perdue 1992) and also extending to individuals who are best characterised as BV learners but their performance exhibits some post-BV features (e.g. tense marking via verb morphology).

(task two) as elicitation techniques. For both tasks, successful accomplishment depends on selection and temporal organisation of the events rather than on making up the story line, because the latter has already been done for them (Carroll & Lambert 2003). The reason for looking at film retellings as well as picture descriptions of the same L1 and L2 groups is the lack of result homogeneity in previous related studies, in which task type was not systematically controlled for. For instance, while Bylund (2011c) used a film retelling task and reported conceptual reorganisation in highly advanced L2 on the level of microplanning, Carroll *et al.* (2000) used a picture-based task and found results suggesting the opposite.

Both the film retelling and the picture-based task used in the present work had been piloted before the actual experiments took place. The pilot study was conducted at the University of Cambridge with four adult native speakers of each of the investigated languages (two subjects per group responded to the animation in speech and the other two to the picture story in writing). Both stimuli proved to be sufficiently culture-neutral for the elicitation of comparable data to examine preferred choices for segmentation, event component selection, topic time management, condensation and linearization.

4.3.1 Elicitation material for task one: film retelling

The data elicitation stimulus for the film retelling task was a coloured non-verbal animated clip² with the duration of 03'50" and the total bitrate of 286.60 kbps. It is a coherent story built up from six compact action fragments featuring a teenage

² The original title of the animation is *Heyday 2006*©. It was retrieved from www.aniboomb.com and used for experimental purposes with written consent of its director Kyoung-hwan Yoon.

boy at his birthday celebration. The fragments, each divided by pauses, can be summarised as (1) *Parcel delivery*, (2) *Discovery of the present*, (3) *Transformation into a rock star*, (4) *Mum's despair*, (5) *Sound explosion*, and (6) *Back to normal*. Every fragment is rich in temporal information, includes relations of simultaneity, posteriority, or partial overlap; and leaves an open possibility for the speaker to decide on event segmentation, component selection, temporal structuring as well as the order of mention. The full event map of the animation is provided in Appendix 1.

4.3.2 *Elicitation material for task two: picture description*

The second stimulus is a picture story³. It consists of five coloured and numbered pictures showing situations that are also interconnected by diverse temporal and causal relations (Appendix 2). Participants were presented with the whole picture story on a single sheet of paper, which was at their disposal throughout the whole description task. The main similarity between the picture story and the animated clip is that both present events in context, and thus reflect the complexity of real life situations more authentically than single decontextualised event fragments. As for some important differences, the picture story is inherently static and more frame-based whereas the animation is dynamic and strongly sequence-based. To reinforce sequential interpretation of events depicted in two consecutive pictures, there is a wall clock in each picture clearly indicating time progression from one picture to another.

³ *The Drums* picture story for the present study was provided by Cambridge ESOL from its database of supporting materials for the *Flyers* speaking exam.

4.3.3 *Experimental procedure*

Each participant took part in one language production experiment consisting of two tasks, task one – the film retelling, and task two – the picture description. Each experiment started with a short introduction, followed by time for participants to fill in the information sheet and the consent form (Appendix 3). The second step involved written instructions in the tested language and followed with spoken clarifications when necessary. In task one the participants were individually presented an animation on a laptop screen. With the instructions kept as similar as possible in each tested language, they were asked to carefully follow the animation divided into six parts by pauses. During the pauses, the task was to say/write down what happens, in a way that a film-maker who has not seen the story could imagine and reproduce the events as accurately as possible, based on their retelling/writing. Participants were asked to focus on the events, without providing too many details concerning the colours, background and interpretations. Each participant was shown the animation only once to ensure spontaneity in production. The chosen procedure naturally caused that elements of story grammar (i.e. initiating event, internal response, attempt, consequence, reaction) were built around respective film fragments rather than the animation as a whole. The duration of one film verbalisation task was approximately 25 minutes. All retellings were recorded, together with the written data transcribed using the CHAT format (MacWhinney 2009), and information units relevant for examining event conceptualisation processes were coded (see section 4.4). Subsequently, to ensure between-group comparability, mean scores of occurrences of the relevant information units were calculated for each participant,

which then served as a basis for calculating group means using a harmonic mean sample size of 15.00.

The same participants were asked to carry out task two, the picture story description based on a static stimulus. In this similarly complex verbal task, the instructions were to describe what happens in the illustrated story to a film-maker so that he or she would be able to make an exact film version of it. Participants were first led to carefully scan the complete input material without taking any notes and then give an accurate spoken/written account of what happens in it, proceeding from the first to the last picture. Following this methodology, elements of story grammar were centred around the story as a whole, not around individual pictures. In the case of written production, various task modifications have been piloted and a number of factors checked to find out whether they had an influence, i.e. the picture description task was tested with different limits (max. 20 minutes/min. 50 words, max. 40 minutes/min. 100 words), which led to negligible differences, so neither word nor time limits were imposed in real experiments. For the sake of eliminating potential influence of task order, half of the participants within each group proceeded from the film retelling to the picture description and the other half vice versa. Special attention was paid to control for the language mode (Grosjean 1998) of the participants. All verbal interaction before and during testing between the experimenter and the second language learners was strictly limited to the target language.

To check potential modality effects, 15 speakers from each native L1 group conducted the animation-based task in a spoken mode and the picture story task in a written mode; and the remaining 15 speakers conducted the animation-based

task in writing and the picture story task in speech. The L1 participants were divided this way mainly in order to test whether the yet understudied event construal techniques of native Czechs and native Hungarians are consistent across these two modalities. Since mode-related variability for the discourse dimensions examined in all three native speaker groups was negligible, all 15 L2 learners in each group conducted the animation-based task in speech and the picture story task in writing.

In the final step of the experiment, participants from the native speaker groups conducting the film narration task in spoken mode were asked to complete a post-test task (Appendix 4). The post-test task involved answering questions about a film retelling that is a ‘relexified’ translation strictly maintaining the incongruent discourse structure of the source language. With the aim to test perceptual saliency of temporal discourse organisation contrasts, native speakers were asked to judge the overall quality of a language-incongruent retelling and comment on any noticed differences from their own production. All three translations were produced with great care in terms of lexical precision and grammatical accuracy in the target language so that the incongruence could be strictly limited to the discourse level.

4.4 The data coding system

A substantial part of the system used for coding the temporal expressions in this study derives from Hickmann *et al.*'s coding manual (1994) with necessary adjustments based on language-specific features and on additional needs linked to

the examined dimensions. The first basic distinction of predicates is made between *static* versus *dynamic* situations (STA vs DYN), using the criteria that states (e.g. *be furious, be in the kitchen*) are homogeneous durative situations that ‘exist’, they can be terminated but not completed because they lack an intrinsic endpoint. By contrast, dynamic situations (durative, iterative or instantaneous) are heterogeneous processes that ‘happen’. The second basic distinction concerns durativity, classifying predicates as *durative* versus *punctual* (DUR vs PUN). Durativity (i.e. characterising situations lasting through time) and punctuality (feature of instantaneous situations) are properties inherently linked to the verb + argument(s), regardless of what additional markings are present. The third main distinction also stems from the properties inherent to the verb + argument structure and concerns telicity. Telicity, the opposition *telic* versus *atelic* (TEL vs ATEL), indicates the extent to which predicates are intrinsically linked to an endpoint. One effective diagnostic tool used for providing information about predicate telicity is an adverbial co-occurrence test. It generally holds for Czech, English as well as Hungarian that predicates compatible with a *for*-type adverbial are atelic and predicates compatible with an *in*-type adverbial are telic.

TEL In-type adverbials diagnosing telicity (exact translation equivalents)

EN: in an hour
 CZ: za hodinu, během hodiny
 HU: egy óra alatt, egy órán belül

ATEL For-type adverbials diagnosing atelicity (exact translation equivalents)

EN: for an hour
 CZ: celou hodinu
 HU: egy órán keresztül, egy órán át, egy óráig

Lexical semantic features of durativity and telicity are coded separately from the grammatical category of perfectivity. For differentiating PERF versus IMPERF, language-specific criteria based on formal verb marking (details in Chapter 3) were used. For an illustration, the most frequent instances per category include:

PERF	Verbs marked as perfective
	EN: V+ past simple marker
	CZ: V+ perfectivising prefixes, V+ perfectivising suffix <i>-nou</i>
	HU: V+ perfectivising particle <i>meg</i> , V+ directly preverbal particles
IMPERF	Verbs marked as imperfective
	EN: V+ <i>ing</i> forms
	CZ: V+ imperfectivising suffix <i>-va</i>
	HU: V+ directly postverbal particles (except <i>meg</i>)
AMB	Verbs ambiguous with respect to perfectivity
	EN: simplex V+ present simple
	CZ: <i>obětovat</i> ‘sacrifice’, <i>věnovat</i> ‘dedicate’ (rare cases)
	HU: simplex verbs

Predicates that were problematic in terms of PERF-IMPERF distinction (e.g. simplex verbs in Hungarian) were coded as AMB (ambiguous) for this category. Examples of raw and coded files are provided in Appendix 5.

4.4.1 Segmentation: central notions and coding

Segmentation of events is analysed through comparisons of the levels of granularity (for the related research questions and hypotheses see section 5.1.3). *Temporal granularity* is a dimension that shows the degree of partitioning of situations (Noyau *et al.* 2005). In the process of event construal, the speaker’s options are between high granularity [+GRA], i.e. detailed series of micro-events, and low granularity [–GRA], i.e. a single macro-event or a few events with

merged components. For example, an event represented by the utterance *he delivers a parcel* [-GRA] can be expressed as a sequence of sub-events, e.g. *he rings the doorbell, opens his bag⁴, takes out a box, fills in a docket, hands the box over to the addressee, turns around and leaves* [+GRA]. The level of granularity can be quantified by calculating the number of partitions per discourse segment (or possibly per discourse as a whole). The following step clarifies what the communicative units associated with granularity, namely partitions, and segments, denote in the present work.

Partitions are those propositions that form the main structure (i.e. foreground) of the discourse, and thus directly answer the Quaestio (Noyau *et al.* 2005). Partitions comprise events marked as (a) ongoing (most commonly DYN:IMPERF), (b) completed (very often DYN:PERF), and also (c) VTAs (i.e. verbs specifically used for temporal/aspectual markings, typically used in verbal constructions in conjunction with another verb to mark properties such as beginning points, continuation, and endpoints of processes.

VTA LB Verbal constructions with VTA verbs marking the left temporal boundary, i.e. the inceptive phase of a durative situation (exact translation equivalents)

EN: she starts screaming

CZ: začne křičet

HU: elkezd kiabálni

VTA RB Verbal constructions with VTA verbs marking the right temporal boundary, i.e. the terminative phase of a durative situation (exact translation equivalents)

EN: he stops playing the guitar

⁴ Note that syntactic packaging alternatives like *he opened his bag* and *he ripped his bag open* equally count as one partition because of their identical single event property. As pointed out by Bohnemeyer *et al.* (2011:48), in utterances like *he ripped his bag open* the ripping subevent is not accessible to operators of temporal position or duration at the exclusion of the opening subevent, and neither is the latter at the exclusion of the former. In order to achieve such accessibility, the two subevents would need to be individuated in two separate partitions, as in *he ripped his bag and it opened*.

CZ: přestane hrát na kytaru
 HU: befejezi a gitározást

VTA CON Verbal constructions with VTA verbs marking a phase of continuation of a durative (singular or iterated) situation (exact translation equivalents)

EN: the boy keeps on/goes on playing, jumping around
 CZ: chlapec pokračuje v hraní, poskakování
 HU: a fiú folytatja a gitározást, ugrándoaszt

In other words, partitions exclude all propositions that do not contribute to temporal movement, i.e. those propositions that constitute the side structure (background) of the discourse. Namely these are (a) non-events, i.e. static situations, negations (NEG e.g. *he doesn't even react*), conditions (COND e.g. *if he infuriated her*), modal expressions (MOD e.g. *she could leave*); and (b) metacommunicative comments (META), i.e. propositions marked to express the narrator's viewpoint (*the camera zooms in; in the background we can see*, etc.) and staging verbs (*the mother appears; it happens*). Static situations subsume presentative existentials (VSPEX), physical states (VSPP), internal states (VSI) and verbs of perception (VPER). These subcategories were left out from partition counts.

VSPEX Verbs in presentative propositions establishing the existence of referents (exact translation equivalents)

EN: there was/it was a drum kit
 CZ: byla to bicí souprava
 HU: egy dobszerkó volt az

VSPP Verbs representing physical states, postures and locations

EN: mother's hair is messy, grandpa is resting on a wheelchair
 CZ: dědeček má zkormoucenej výraz, pes leží pod stolem
 (grandpa has a doleful expression, a dog is lying under the table)
 HU: egy teherautóban ült egy kéksapkás figura
 (a man with a blue cap sat/was sitting in a van)

VSI Verbs representing internal states and processes involving cognitive verbs

EN: mother knows/thinks that, grandpa decides to stop

CZ:	děda si uvědomuje/vnímá, matka se rozhodne zakročit (grandpa is aware/is sensing, the mother decides to intervene)
HU:	a szülők megbánták/sejtik, a fiú rádöbben az igazságra (the parents regretted/suspect, the boy realises the truth)
VPER	Verbs of perception (exact translation equivalents)
EN:	hear, look, see
CZ:	slyšet, dívat se, vidět
HU:	hallani, nézni, látni

Discourse fragment in the present work means a chunk of produced discourse related to one specific part of the stimuli used as elicitation material. The boundaries of each part of the stimuli are clearly indicated by pauses (film) and changes from one picture to the next (cartoon strip)⁵.

4.4.2 Selection: central notions and coding

Selection of event components is examined by comparing the construal of *goal-oriented motion events* (for the related research questions and hypotheses see section 6.1.3). This event type can be described as the continuing motion of animate or inanimate entities towards an endpoint. Speakers in a communicative context have the choice of verbalising goal-oriented motion events with or without reference to endpoint. In this respect, analyses of preferences in the L1 and L2 groups were based on three types of motion events coded in the data. The three types of motion events fall into two categories: *movements* and *displacements* (Tesnière 959:308; as translated by Ochsenbauer, in press). Movements are intrinsic and are not determined by a goal but rather on one's possibility to move, whereas displacements are extrinsic and imply a change of location. The first type of motion events coded includes displacements referring to situations in which the

⁵ The only exception is the change from picture 4 to picture 5 (see Appendix 2), where the change to picture 5 does not unambiguously signal whether the situation depicted in 4 is over or not.

motion reaches the endpoint as presented in the stimulus (MOTR). The second type is displacements referring to situations in which a possible endpoint was expressed based on inference (MOTN) but no endpoint was reached or shown in the actual stimulus. The third type subsumes movements, i.e. motion situations not depending on endpoints (MOTO).

MOTR	<p>Predicates denoting events of displacement in which the motion reaches the endpoint and the endpoint is clearly depicted in the stimulus</p> <p>EN: mother runs into the lounge, boy turns the volume to the maximum CZ: maminka přiběhla do obýváku, kluk zapojil kytaru do reprobedny (mum ran into the lounge, the boy plugged the guitar into the amp) HU: az anyuka berohan az ebédlőbe, az ajándékot tolja be a szobába (mum dashes into the lounge, she pushes the present into the room)</p>
MOTN	<p>Predicates denoting events of displacement in which the motion does not reach the endpoint but the endpoint is inferable from the stimulus</p> <p>EN: Jimmy is running (to the parcel), plates are falling (on the floor) CZ: maminka odchází (do kuchyně), dědeček si sedne zpátky (do křesla) (mum is leaving (to the kitchen)), (grandpa sits back (into the chair)) HU: az anyuka kimegy (a konyhába), nagypapa lassan leül (a tolószékbe) (mum leaves (to the kitchen), grandpa slowly sits back (into the wheelchair))</p>
MOTO	<p>Predicates denoting events of movement</p> <p>EN: grandpa is playing a guitar solo, Jimmy is clapping enthusiastically CZ: barák se třese, kluk si hraje s balónkama (the house is shaking, the boy is playing with balloons) HU: a gyerek dörzsölgeti a szemét, az anyuka rázza a fejét (the child rubs/is rubbing his eyes, mum shakes/is shaking her head)</p>

The three types of motion events in the animation appeared semi-randomly (see Appendix 1), as parts of contextualised event sequences forming the video clip. From all motion events in the clip, approximately 15% are presented as MOTR, 15% as MOTN and 70% as MOTO.

An additional coding variable within the MOTR and MOTN categories distinguished pure lexical marking (MOTRL and MOTNL) from morpho-lexical

marking (MOTRM and MOTNM) of endpoints.

MOTRL	Lexical encoding of endpoints by means of a simplex verb + locative adjunct
EN:	Jimmy turns the volume control to the highest possible level
CZ:	děda opře kytaru o reprobednu, stařík si sedne na invalidní vozík (grandpa leans the guitar against the amp, the old man sits down on the wheelchair)
HU:	anya dühosen rohan a szobába, a kissrác csutkára tekeri a hangerőt (mum angrily runs/is running into the room, the boy turns the volume to the maximum level)
MOTRM	Combination of morphological and lexical encoding of endpoints by means of a prefixed verb + locative adjunct
EN:	not applicable
CZ:	dítě si zavěsí kytaru na rameno, matka vstoupí do pokoje (the child on+hangs the guitar onto his arm, mam in-walks into the room)
HU:	nagypapa visszakullog a tolószékéhez, anyuka beszalad az ebédlőbe (grandpa back+steps towards his wheelchair, mum in+runs into the lounge)

4.4.3 Structuring: central notions and coding

Combinations of lexical, grammatical and discourse markers per proposition were coded and analysed to unravel temporal structuring patterns that particular groups exhibited for establishing relations between topic time, situation time and utterance time (for the related research questions and hypotheses see section 7.1.3). With regard to lexical marking, *temporal adverbials* (TADV) that contribute to the temporal/aspectual marking were coded on the basis of their functional properties, including anteriority (TANT), posteriority (TPOST), simultaneity (TSIM), iterativity (TITE), continuation (TCON), durativity (TDUR), and punctuality (TPUN). No formal distinctions (i.e. whether a given TADV consists of a nominal, numeral, simple or complex expression) were considered in the coding. Special attention was given to avoid blanket coding, and polysemy such as *just* and *still* were only coded if expressing temporal meaning.

TANT:	EN: before, previously, CZ: předtím, HU: azelőtt, előzőleg
TPOST:	EN: after a while, later CZ: později, HU: később
TSIM:	EN: meanwhile, CZ: mezitím, zatím, HU: eközben
TITE:	EN: once again, CZ: znovu, zase, opět, HU: még egyszer
TCON:	EN: still, CZ: stále, pořád, HU: még mindig
TDUR:	EN: for a minute, CZ: minutku, HU: egy percig
TPUN:	EN: suddenly, CZ: náhle, HU: hirtelen

(exact translation equivalents)

Temporal connectives (TC) contributing to the temporal/aspectual marking were also coded and divided into subordinating (TCS) and coordinating connectives (TCC). Important subcategories within each of these groups include frequently used subordinating connectives marking a near temporal region (TCS:REG) and coordinating connectives marking posteriority (TCC:POS). Functionally ambiguous connectives were coded as X and all such cases (approximately 15-20% of the total number of temporal connectives) were automatically excluded from subsequent analyses.

TCS:REG	EN: when, CZ: když, HU: amikor
TCC:POS	EN: then, CZ: pak, potom, a poté, HU: aztán, azután, majd
TCC:X	EN: and, CZ: a, HU: és

(exact translation equivalents)

On the discourse level, two dimensions played an important role for structuring: condensation and topic time management. *Condensation* is a discourse dimension that reflects the degree of hierarchical organisation of event components. Options for the speaker in the process of event construal lie between high condensation

[+CON], which is represented by multi-propositional utterances characteristic of hypotactic linkage, and low condensation [-CON], i.e. mono-propositional utterances or simple parataxis. Condensation degrees in spoken or written discourse can be quantitatively measured by calculating condensation indices (CON index = number of propositions per utterance). *Utterance* is defined as an autonomous communicative unit that has an illocutionary force, and whose contribution to the information structure of the text can be characterised as a whole (Noyau *et al.* 2005). Identification of utterance boundaries in discourse can be accomplished by means of syntactic, semantic, prosodic (e.g. in film retellings), and also punctuational cues (e.g. in written descriptions). To calculate condensation indices, each utterance needs to be further divided into propositions. A *proposition* represents a conceptual information unit that minimally includes reference to a situation (a predicate + its associated entities), reference to modality, and, optionally, reference to time, to space, and to other cognitive categories (Levelt 1989). It is normally expressed by a syntactic clause; however, there are exceptions (for instance, *yesterday* may function as a separate proposition in an appropriate context). All propositions in the data were labelled [c]. Clefts (CFT) and pseudoclefts (PCFT) were used with a symbol *UNIT* and were treated as single propositions without further segmentation.

UNIT:PCFT Pseudoclefts coded as single propositional units

EN:	who was actually playing the guitar was the grandfather [c]
CZ:	ten kdo hrál na kytaru byl vlastně dědeček [c] (who was playing the guitar was actually the granddad)
HU:	aki a gitárhoz nyúlt, az meglepően a nagypapa volt [c] (who grabbed/was grabbing the guitar was surprisingly the granddad)

As for *topic time management*, either topic time maintenance (TTM) or topic time shift (TTS) were coded for each event partition (DYN and VTA) based on their function in the discourse context. Abstruse and ambiguous combinations within partitions (e.g. combination of an adverbial marking punctuality with a verbal affix marking ongoingness, occurring in learner production) were coded with the symbol TTA.

TTM	Locating topic time fully within the current situation time
EN:	the boy is running around the house
CZ:	chlapeček poběhuje po domě (the boy is running around the house)
HU:	a kisfiú éppen össze vissza szaladgál az ebédlőben (the boy is right now running around in the living room)
TTS	Locating topic time in the post time of the preceding situation time
EN:	then the delivery man drives away
CZ:	pak doručovatelská služba odjede (then the delivery service drives away)
HU:	azután a csomagszállító kocsi elhajt (then the delivery van drives away)
TTA	Combination of punctual and ongoing elements (exact translation equivalents)
EN:	(?) Grandpa is suddenly sleeping.
CZ:	(?) Dědeček zrazu spí.
HU:	(?) A nagypapa hirtelen alszik.

4.4.4 *Linearization: central notions and coding*

Event ordering is examined through chronological (LCHO) and non-chronological order (LNOC) constructions (for the related research questions and hypotheses see section 8.1.3). Particular attention is paid to temporal connectives *before* and *after* since their positioning in hierarchical structures clearly indicates whether the linguistic order of propositions mirrors the order of actual/presented event occurrence (Clark 1971). It holds across all languages in question that if the

temporal connective *before* occurs in a subordinate clause following the main clause then chronology is maintained (LCHO:BEF) whereas if it is part of a subordinate clause preceding the main clause then digression from chronology appears (LNOC:BEF). Inversely, if the temporal connective *after* is used in a subordinate clause following the main clause then the given ordering is non-chronological (LNOC:AFT) while if it is used in a subordinate clause that precedes the main clause then the event is expressed chronologically (LCHO:AFT). In time-relational terms, a non-chronological order construction locates TT2 before the corresponding TT1 in a LNOC:BEF condition, and TT1 after the corresponding TT2 in a LNOC:AFT condition.

LCHO:BEF Events linked by *before* in a subordinate clause following the main clause

EN: he put on red sunglasses before he plugged in the guitar
 CZ: nasadil si červené brýle předtím než zapojil kytaru
 HU: felvette a piros napszemüveget mielőtt bekapcsolta a gitárt

LNOC:BEF Events linked by *before* in a subordinate clause preceding the main clause

EN: before he plugged in the guitar, he put on red sunglasses.
 CZ: předtím než zapojil kytaru, nasadil si červené brýle.
 HU: mielőtt bekapcsolta a gitárt, felvette a piros napszemüveget.

LNOC:AFT Events linked by *after* in a subordinate clause following the main clause

EN: he plugged in the guitar after he put on red sunglasses.
 CZ: zapojil kytaru poté, co si nasadil červené brýle.
 HU: bekapcsolta a gitárt, miután felvette a piros napszemüveget.

LCHO:AFT Events linked by *after* in a subordinate clause preceding the main clause

EN: after he put on red sunglasses, he plugged in the guitar
 CZ: poté co si nasadil červené brýle, zapojil kytaru
 HU: miután felvette a piros napszemüveget, bekapcsolta a gitárt

(exact translation equivalents)

Non-chronological order constructions are not necessarily equivalent with full propositions but may also surface as clausal constituents in the form of prepositional phrases (PP). All such instances counted as NOCs.

LNOC:PP Prepositional phrases forming non-chronological order constructions

- EN: grandpa gets back to his sedentary lifestyle like before the explosion
 CZ: dědeček se vrátí zpátky do svého rytmu jako před výbuchem
 (grandpa returns to his life rhythm like before the explosion)
 HU: az öreg megtört arccal néz a semmibe mint a robbanás előtt
 (grandpa with a shattered face stares/is staring ahead like before the explosion)

The coding of linearization strictly reflects the order of events as presented in the stimuli. Simultaneous interpretation (LCHO:SIM) of two adjacent propositions uttered by a participant may in some cases be perfectly felicitous based on inferences from world knowledge, nevertheless, consecutive ordering (LCHO:CSQ) was applied as the baseline for coding whenever dictated so by the stimulus (see Appendix 1 for the map of scene sequences in the animation).

LCHO:CSQ Potentially simultaneous interpretation of adjacent propositions overridden by sequential event ordering dictated by the animation (exact translation equivalents)

- EN: a postman is filling in a docket and nodding his head to the music
 CZ: doručovatel vyplňuje papíry a pokyvuje hlavou do rytmu hudby
 HU: egy kamionsofőr tölti ki a papírokat és rock zenére bólogat

LCHO:CSQ Potentially simultaneous interpretation of adjacent propositions overridden by sequential event ordering dictated by the picture story

- EN: the boy starts drumming and the noise disturbs the whole family
 CZ: chlapeček začne bubnovat jak o život a miminko nemůže usnout
 (the little boy starts drumming hard and the baby cannot fall asleep)
 HU: a fiú kipróbálja az ajándékát és a szülők nagyon mérges arcot vágnak
 (the boy tries out his present and the parents pull angry faces)

Identification and coding of NOCs in picture descriptions was kept as similar to that in film verbalisations as possible. Although a picture story is essentially

frame-based and built on simultaneity to a greater extent than a sequence-based animation, NOCs were strictly limited to clear digressions from the event order presented in the stimuli (see Appendix 2 for the full picture story). In the picture descriptions, only constructions referring to an event depicted in or inferred from preceding pictures counted as NOCs.

LNOC Examples of non-chronological ordering in the picture descriptions

- EN: his friends leave the party once they've enjoyed the drum kit together
 CZ: tři děti koukají na toho kluka, který dostal bicí soupravu
 (three kids are watching the boy who received the drum kit)
 HU: két órán keresztül játszik, miután a többiek már elmentek
 (he is playing for two hours after the others have left)

The final step for NOC coding regards their co-occurrence with particular markers. NOC markers across all 3 examined languages fell into six categories: (a) single temporal adverbials (LNOC:STADV); (b) dual temporal adverbials (LNOC:DTADV); (c) relative clauses (LNOC:REL); (d) complements (LNOC:COMPL); (e) *because* clauses (LNOC:BEC); and (f) tense/aspect contrasts (LNOC:TAC) (cf. Bardovi-Harlig 1994). These categories can be classified into two main types: NOCs that exhibit a tense/aspect contrast (the latter category) and NOCs that do not (categories a-e). Uniform coding was applied to all NOCs in categories a-e.

LNOC:STADV Examples of NOCs marked with a single temporal adverbial

- EN: the boy started to clap after the granddad stopped playing
 CZ: vzal do rukou kytaru jakmile si nasadil sluneční brýle
 (he took the guitar in his hands as soon as he put the sunglasses on)
 HU: a kezét a magasba emelte, mielőtt a húrok közé csapott
 (he raised his hand up high before he strummed the guitar)

LNOC:DTADV Examples of NOCs marked with two temporal adverbials

- EN: her expression changes all of a sudden when everything starts to shake

- CZ: z oken najednou vychází šedý dým poté co děda máchne do strun
(grey smoke comes out from the windows suddenly after grandad strums the guitar)
- HU: az öregúr felfigyel egy pillanatra, amikor a fiú nekiesik a csomagnak
(the old man becomes attentive for a moment when the boy storms to the parcel)

LNOC:REL Examples of NOCs marked with a relative clause

- EN: the icing bag she brought with her from the kitchen exploded its contents all over her face
- CZ: začal se radovat z úžasného výkonu, který děda předvedl
(he started to cheer to the great performance which grandpa had given)
- HU: talált egy képeslapot, melyet az apja küldött
(he found a postcard that had been sent by his father)

LNOC:COMPL Examples of NOCs marked with a complement

- EN: mum ran to where the noise came from
- CZ: řidič si zapsal to, že předal zásilku
(the driver wrote down that he had delivered the present)
- HU: az anyuka szólt neki, hogy megérkezett az ajándéka
(mum told him that his present had arrived)

LNOC:BEC Examples of NOCs marked with *because*

- EN: she ruins her icing because the guitar starts playing incredibly loudly
- CZ: všechno začne lítat, protože ty decibely to tam všechno začnou třást
(everything starts to fly around because the noise start to shake everything)
- HU: elrontja a feliratot, mert a szobában maximális hangerőn megszólal a zene
(she ruins the writing because the music in the room starts to play with maximum loudness)

Instances of NOCs marked by means of a contrastive use of tense/aspect morphology were coded in accordance with language-specific criteria (i.e. perfective/imperfective aspectual forms combined with past/present tense forms in Czech; perfective/perfect/progressive aspectual forms combined with past/present tense forms in English; and simplex vs. particle verbs in perfective/imperfective environments combined with past/present tense forms in Hungarian). All doubly marked NOCs were counted once only in the total counts of forms. In cases of double NOC marking (e.g. morphological marker +TADV), tense/aspect marking was prioritised in the counts in all three languages over other markers (i.e. the

morphological marker counted towards the total, and the percentage of TADVs in doubly marked NOCs was added as supplementary information within category (f).

4.5 Conclusion

This chapter provided detailed information about the recruited participants, the methodology of the conducted experiment and the criteria for data coding. All coding and transcribing was closely overseen by native speakers of the respective languages. The coding system identifies temporal and aspectual markings pertinent to a systematic linguistic comparison of the four event construal processes examined. It is designed to allow searches for answering specific questions about matters of immediate relevance to the four processes under scrutiny. An effort has been made to use identical coding categories across all three languages whenever possible, limiting the use of language-specific categories to the inevitable minimum. As an example, adverbial expressions, chronological order constructions as well as lexical temporal boundary markers are coded on the basis of shared general properties whereas grammatical aspectual operators are coded with regard to language-specific distinctions. Given the focus of this work, emphasis in all languages has been put on a few dimensions: namely phasal decomposition, ongoingness, reference to endpoints in motion events, topic time management, condensation and event ordering. One great advantage of such a coding system is the possibility of conducting co-occurrence tests within as well as between propositions. Importantly, it enables concordance tests for particular grammatical forms used with specific discourse functions. Subsequent analyses can then assess how discourse patterns can be influenced by the use of certain

structural forms and also, inversely, how structural properties can instigate particular discourse organisational preferences.

Chapter 5

Segmentation of contextualised events in L1 and L2 discourse^{*}

5.1 Introduction

Previous research on temporal reference in discourse, specifically studying how diverse groups of native speakers segment events for expression, has to a great extent pointed to language-specificity being involved in this process. In the past decade there has been converging evidence that speakers of genetically close as well as distant languages systematically differ in the ways they partition temporal information when faced with the same communicative task (Bylund 2011b; Noyau *et al.* 2005; von Stutterheim & Nüse 2003). These studies align well with related crosslinguistic research on language-specificity in organising temporal information (e.g. Berman & Slobin 1994; Bohnemeyer 2009; Boroditsky 2001). The following section summarises the results and conclusions drawn in studies of immediate relevance to this chapter.

5.1.1 Examining crosslinguistic event segmentation contrasts

Event segmentation preferences have been examined in the language production of native speakers of Swedish and Spanish (Bylund 2011b); French, Swedish and Spanish (Noyau *et al.* 2005); and German, English and Arabic (von Stutterheim &

^{*} Those ideas within this chapter which relate to temporal segmentation across L1s were published in Vanek, N. (2012). Language-specific perspectives in reference to time in the discourse of Czech, English and Hungarian speakers. In L. Filipovic & K. M. Jaszczołt (eds) *Space and Time in Languages and Cultures 1: Linguistic Diversity*, 135-156. Amsterdam: John Benjamins. Human Cognitive Processing Series 36.

Nüse 2003). All of these studies employed film-retelling as the elicitation technique. The participants were asked to retell the events in the video while watching it or during the pauses immediately after each short episode. Analyses of variance were conducted for the number of partitions verbalised. Results showed that event segmentation differed across groups in correspondence with availability vs. absence of aspect in a given language system. Overall, with the exception of the study of Noyau *et al.* (2005), the observation was that speakers of languages with grammaticalised aspect tended to opt for a higher degree of event segmentation than speakers of languages lacking overt and systematic aspectual contrasts. Namely English, Arabic and Spanish production was found to be significantly more fine-grained and phasally decomposed than that of German and Swedish native speakers. These findings were interpreted as support for the hypothesis regarding the interrelation between grammatical aspect and event conceptualisation (cf. von Stutterheim *et al.* 2002; von Stutterheim & Nüse 2003).

5.1.2 Studies on event segmentation in learner varieties

Given the crosslinguistic contrasts identified in event conceptualisation across first languages, further research naturally led to examining preferences of segmentation in second language acquisition (SLA). Learner groups whose L2 differs from their L1 in terms of event construal patterns generated especially strong interest. The new aim was to explore whether acquiring a new language goes hand in hand with overcoming automatised preferences in L1 and with learning to organise temporal information in a target-like way. It is a particularly engaging area of research as the acquisition of discourse-organisational principles and how these are linked to grammaticalised concepts in the target language may

be one of the most challenging steps in L2 learning (cf. Carroll & Lambert 2003) for a number of reasons. Firstly, derivation of such principles involves an intricate network of form-function relations across a number of domains (e.g. morpho-syntax, lexicalisation, discourse structure). Secondly, these principles represent preferences rather than absolute rules (no rule in the grammar of English suppresses coarse-grained segmentation in favour of highly granular event partitioning).

A number of related studies recruited highly advanced L2 speakers with target-like mastery of forms. However, the principles according to which forms were used to express events were generally found to deviate from native speakers' preferences (e.g. Bylund 2011b; von Stutterheim & Lambert 2005). As for event segmentation in L2 English, von Stutterheim and Lambert (2005) reported that although German learners decomposed event phases with target-like frequency, they have not managed to fully reorganise their L1 knowledge about information organisation according to L2 principles. As with French learners of English L2 tested in the same study, qualitative analyses showed that both learner groups tended to overgeneralise phase segmentation leading to incompatibility with certain situation types and resulting in inconsistencies in L2. Bylund (2011b) found that L1 Spanish adults with L2 Swedish resorted to a different event segmentation strategy from both L1 and L2 in their film retellings. L2 learners parsed temporal information into a set of propositions with significantly higher granularity than the native Swedish speakers but their production was not as granular as that of the Spanish natives. These results corroborated previous

findings that event segmentation patterns in L2 diverge from source and target preferences.

In sum, crosslinguistic studies on the role of grammatical aspect in event segmentation suggest that (a) speakers of languages with grammaticalised aspect are prone to focus more on the phasal structure of events compared to speakers of non-aspect languages; and that (b) learners whose L2 differs from their L1 in terms of encoding aspect tend to remain rooted in event segmentation patterns typical of their first language even at advanced stages of SLA.

One novel feature in this chapter lies in the attempt to show that language-specific preferences in event segmentation are not automatically attributable to presence vs. absence of grammatical aspect but instead hinge on the specific ways aspect, and particularly the concept of ongoingness, is encoded in the grammar of a given language. Data from speakers of Czech shows that even a language traditionally considered aspect-dominant can channel its speakers to segment events with a considerably lower resolution than other aspect languages. Subsequently, the implications for second language acquisition are discussed and related hypotheses tested.

Another innovative component is the triangulation of evidence to gain better insights on the effect of grammatical aspect, and particularly the effect of having vs. not having a specific ongoingness marker, on event segmentation. No consensus has so far been reached with regard to how exactly aspect interacts with the process of segmentation, i.e. in what direction. One group of researchers has found support for the view that the presence of aspect in a given language system

induces high granularity (e.g. Bylund 2011b; von Stutterheim & Nüse 2003), whereas others claim that ‘aspectualisation goes with a lower degree of granularity’ (Noyau *et al.* 2005:194). Despite similarity in the type of stimuli, experimental design as well as languages examined, differences emerged in the results. Further research comparing more than two aspectual systems is therefore considered helpful for re-assessing the effect direction of grammaticalised aspect on the process of event segmentation.

5.1.3 Research questions and hypotheses

The research questions (Qs) guiding the investigation process in this chapter and the corresponding hypotheses (Hs) are:

Q1: What are the similarities and differences between Czech, English and Hungarian speakers in segmenting contextualised events for expression? Do the differences vary according to the codability of ongoingness in the grammatical aspectual system of these languages? Are segmentation differences consistent across modalities and task types?

H1: In line with the view that grammar plays a crucial role in conceptual organisation, it is posited that availability of grammaticalised concepts of ongoingness and perfectivity and their ease and frequency of expression in a given L1 has a significant impact on event segmentation processes. Crosslinguistic contrasts in segmentation patterns are predicted to surface regardless of modality or task type since highly automatised preferences linked to grammaticalised concepts are pertinent in any type of language production.

Q2: To what extent do advanced learners of L2 English from typologically distinct L1s in terms of encoding grammatical aspect, i.e. Czech and Hungarian, adopt new principles for segmenting events in a target-like way? Is language distance, measured as variances in the grammaticalisation of ongoingness in the aspectual systems, a reliable predictor of the extent of potential deviations from target segmentation patterns? What event segmentation principles characterise basic learner varieties?

H2: In line with the predictions of the adopted theoretical framework (Slobin 1996), speakers of Czech and Hungarian, trained to segment events differently to speakers of English because of the differences in marking ongoingness, will not be able to fully reorganise their L1 principles in L2 production. Important differences will surface depending on the degrees of L1-L2 similarity. Speakers of Hungarian are expected to have more problems than Czech speakers in approximating English-like segmentation patterns.

5.2 Task One

The first task was designed to examine whether aspectual differences in terms of marking ongoingness interact with event segmentation principles in L1s; and whether basic and advanced L2 learners adopt target-like segmentation principles whilst learning a foreign language.

5.2.1 Segmentation in film retellings across the source languages

Initially, segmentation in L1 discourse was analysed by looking at the number of encoded events in the written and spoken production of Czech, English and Hungarian native speakers. The results of two one-way between-subject ANOVAs comparing granularity indices (GIs) between L1 groups are shown in Table 5.1. Analyses of the relationships between segmentation patterns and language group revealed significant differences¹ in the levels of granularity between L1 groups in spoken [$F(2,41) = 3.99, p < 0.05$]² as well as written discourse [$F(2,42) = 4.95, p < 0.05$].

Table 5.1 Comparison of GIs for spoken (Spo) and written (Wri) film verbalisation per native speaker group

	GI – mean number of partitions per discourse fragment	% of foregrounded propositions
English L1 Spo	9.19	57.0%
Czech L1 Spo	7.53	58.7%
Hungarian L1 Spo	7.19	63.0%
English L1 Wri	8.03	64.9%
Czech L1 Wri	6.82	75.0%
Hungarian L1 Wri	6.36	70.7%

Post hoc tests (Tukey HSD) showed that the average number of events in English retellings computed at the fragment level ($M=9.19, SD=2.58$) significantly differed from the average number of events encoded in the Czech ($M=7.53, SD=1.65$) and the Hungarian retellings ($M=7.19, SD=1.83$), with no statistical significance found between the latter two groups. Similarly in written production,

¹ Throughout the whole thesis, group differences considered statistically significant mean that the related p-values were below 0.05

² This calculation reflects the exclusion of one extremely outlying case of event segmentation by a participant from the otherwise relatively consistent group of Czech L1 speakers.

the mean score³ of granularity in English texts (M=8.03, SD=1.71) significantly differed from the mean scores in the Czech (M=6.82, SD=1.36) and the Hungarian texts (M=6.36, SD=1.44), without a significant difference between the Czech and Hungarian segmentation patterns. These results indicate that the degree of event partitioning in English L1, both in retellings and in written texts, for the given type of discourse is typically higher than that in Czech and Hungarian L1s. The percentages in Table 5.1 show the proportion of propositions expressed as part of the foreground (i.e. as event partitions representing temporal movement) in contrast with the remaining propositions forming the side structure (i.e. as non-events forming the background; including states, negations, conditions, modals; and metacommunicative comments expressing the narrator's viewpoint). These numbers may give an impression that written accounts show a general trend to include less background information, however, the differences were not statistically significant.

5.2.2 *Segmentation in film retellings in advanced and basic L2*

As for segmentation in L2, GI in advanced ENL2 of Czech learners (M=6.68, SD=1.70) and also in advanced ENL2 of Hungarian learners (M=7.12 SD=1.87) significantly differed from the GI in English L1 retellings (M=9.19, SD=2.58) [F(2,42)=6.19, p<.005] but not from the number of events found in Czech L1 (M=7.53, SD=1.65) and Hungarian L1 (M=7.19, SD=1.83) retellings. These results, as shown in Table 5.2, indicate that advanced L2 learners did not follow

³ All mean scores in the present work (with the only exception of extreme outliers, which are explicitly pointed out) were calculated for groups with homogeneous subsets n=15

target-like segmentation patterns and that their production quantitatively resembled temporal partitioning preferences typical of the respective L1s.

As for granularity in learner production at the basic level, L2 competence at this stage of development expectedly gave rise to less fine-grained event partitioning than that of the respective L1 group and the respective advanced L2 group; ($F(2,42)=29.03$, $p<.001$ for Czech learners at BV level ($M=3.22$, $SD=0.80$) vs. Czech natives ($M=7.53$, $SD=1.65$) vs. Czech advanced learners ($M=6.68$, $SD=1.70$); and $F(2,42)=20.46$, $p<.001$ for BV Hungarian learners ($M=3.83$, $SD=1.11$) vs. Hungarian natives ($M=7.19$, $SD=1.83$) vs. Hungarian advanced learners ($M=7.12$, $SD=1.87$)). Table 5.2 also shows that not only the GIs but also the percentages of foregrounded propositions were significantly lower for the BV level Czech learners ($F(2,42)=12.2$, $p<.001$ for BV of Czech learners ($M=48.6$, $SD=8.7$) vs. Czech natives ($M=59.6$, $SD=8.1$) vs. Czech advanced learners ($M=63.4$, $SD=8.8$)); however, not for the BV level Hungarian learners.

Table 5.2 GIs and mean percentages of foregrounded propositions in film retellings of L1 and L2 groups

Group	GI - mean number of partitions per discourse fragment	% of foregrounded propositions
ENL1	9.19	57.0%
CZL1	7.53	59.6%
HUL1	7.19	63.0%
ENC2CZ	6.68	63.4%
ENC2HU	7.12	62.1%
ENB1CZ	3.22	48.6%
ENBIHU	3.83	49.7%

No significant differences in foregrounding were identified between the three L1 groups, suggesting that the processes of segmentation and foregrounding operate

independently. Further insights into the nature and idiosyncracies of segmentation preferences per group are provided by the qualitative analyses.

5.2.3 Results from qualitative analyses

This subsection samples typical film verbalisations by the L1 and L2 groups, with the aim to inspect contrasts in event segmentation preferences. The first step is a qualitative comparison of three representative discourse fragments from the L1 groups, one per each examined L1. All three examples (1-3) are related to the same part of visual input.

(1) Example of a segmentation strategy typical of English L1 film retelling

- a. *In the kitchen the mother is about to start icing her son's birthday cake.*
- b. *She is humming to herself*
- c. *as she starts icing it,*
- d. *using a piping bag.*
- e. *Suddenly, the blaring sound of the guitar plays out.*
- f. *The boy has obviously started to play it.*
- g. *She gets startled*
- h. *so she ruins the icing.*
- i. *She shouts something*
- j. *but Jimmy carries on playing*
- k. *and plates and crockery start falling off of the kitchen shelves.*
- l. *She exits the kitchen*
- m. *shouting in fury*
- n. *and carries on shouting back in the living room.*

English speakers were generally found to incline to a significantly higher level of segmentation in comparison with the Czech and the Hungarian speakers. Example (1) shows that the finer event granularity in English film retellings was achieved by frequent decomposition of events into inceptive (1a, 1c, 1f, 1k) and ongoing phases (1j, 1n), specification of circumstances (1b, 1d, 1l) as well as causal linkage (1h). Phasal segmentation characteristically coincides with an imperfective view on events and with defocussed right temporal event boundaries. Additional information about circumstances as well as causal links are thus helpful in conveying how events progress. This results in high granularity typical of English discourse.

(2) Example of a segmentation strategy typical of Hungarian L1 film reconstructions

- a. *Az anyuka ezalatt a tortáját díszíti a fiúnak,*
In the meantime the mother is decorating her cake for the boy,
- b. *s mikor megszólal az erősítő,*
and when the amplifier plays out,
- c. *el is rontja a torta feliratát.*
she spoils the writing on the cake.
- d. *A nagy hangzavarra minden leesik a konyhában, tányérok s még egy patkány is.*
Upon the sound blast everything falls down in the kitchen, plates and even a rat.
- e. *Azután az anyuka idegességében berohan a nappaliba*
After that mum whirls into the living room discomposed
- f. *és elkezd kiabálni.*
and begins to shout.

In contrast with the English production, Hungarian retellings tended to be more coarse-grained. One of the most conspicuous differences from the English segmentation pattern was the frequent explicit linkage of events by means of anaphoric shifters signalling posteriority, such as in examples (2d) and (2e). Other common explicit means found to link events were temporal adverbials expressing simultaneity (e.g. *ezalatt* ‘in the meantime’ in 2a). Since relations between events

are often clearly specified in Hungarian, there is no need for a comprehensive description of event circumstances or for a detailed phasal resolution that would guide the listener through event progression. This could be the reason for the lower levels of granularity compared to the English production. As for the Czech retellings, they also differ on the whole from the English ones in the degree of elaboration and phasal segmentation, i.e. they are also significantly less fine-grained. What they share with the Hungarian retellings is the relatively frequent occurrence of event links via positional temporal adverbials marking posteriority (e.g. *pak* ‘then’ in 3f) and simultaneity (e.g. *když v tu chvíli* ‘at which point’ in 3b).

(3) Example of a segmentation strategy typical of Czech L1 film retellings

- a. *Maminka připravuje v kuchyni dort,*
Mum is preparing a birthday cake in the kitchen
- b. *když v tu chvíli začne Jimmy hrát tak hlasitě,*
at which point Jimmy starts playing so loudly
- c. *že padají věci z kredence.*
that things are falling out of the cupboard.
- d. *Maminka se lekne*
Mum gets startled
- e. *a pokazí nápis na dortu.*
and she ruins the writing on the cake.
- f. *Pak totálně vynervovaná vyběhne z kuchyně*
Then she storms out of the kitchen totally unnerved
- g. *a začne řvát.*
and starts yelling.

Outcomes solely from the quantitative analyses might give the impression that advanced learners simply adjust the linguistic material provided by the L2 to the principles of event segmentation typical of their L1s. Supplementary qualitative analyses provide a helpful insight into the nature of difficulties

encountered on the way to TL principle approximation (for problems of German and French advanced learners of English see von Stutterheim & Lambert 2005). Close examination of the advanced L2 data revealed a number of problems. Some of the most conspicuous deviations from L1 English segmentation patterns include (a) overgeneralisation of phasal decomposition, and (b) employing incompatible expressive means when linking event phases. Deviations of this kind result in inconsistencies and may cause disruptions in temporal information flow. In what follows, examples for each of these problems from both advanced learner groups are illustrated.

- (4) Example of overgeneralising phasal segmentation by a Hungarian advanced learner
- a. *The little boy starts playing his guitar*
 - b. *and all the kitchen utensils are starting to fall off the shelves*
 - c. *and the mother starts screaming*
 - d. *because this is just too much.*
- (5) Example of overgeneralising phasal segmentation by a Czech advanced learner
- a. *But then he starts playing*
 - b. *and then the whole house starts to shake.*
 - c. *And his mother goes crazy*
 - d. *and starts shouting.*

One of the learner difficulties is overgeneralisation of phasal segmentation, shown in examples (4) and (5). Inchoatives such as *start*, *try* and *begin* in English L1 data typically mark initiation of event chains and are frequently followed by progressive and terminative event phases. By contrast, L2 learners have a tendency to overuse inchoatives and in addition to initiating event chains they combine them with any durative verb (Czech learners were found to combine

them also with non-durative verbs). Numerous inchoatives suggest that the learners have acquired the means to decompose events into fine-grained phases but they employ them inappropriately to serve the target function.

(6) Example of using incompatible expressive means by a Hungarian advanced learner

- a. *She starts to scream,*
- b. *she's angry,*
- c. *and this old man is suddenly standing in the middle of the room,*
- d. *and playing the guitar.*

(7) Example of using incompatible expressive means by a Czech advanced learner

- a. *She tries to jump around him*
- b. *and wake him up*
- c. *until the mother calls her.*

The second learner problem is manifested in the use of incompatible means for maintaining temporal coherence between event phases. Example (6) shows a Hungarian learner's attempt to combine the adverb *suddenly* (signalling punctuality) and the imperfective aspect (marking ongoing phase), which are mutually exclusive temporal devices. The discourse fragment produced by a Czech learner shown in example (7) is another instance of incompatibly employed temporal devices. In this case, the principle of phasal event construal is violated by juxtaposing an inchoative phase (*tries to jump around him and wake him up*) and an explicit right temporal boundary (*until*). Non-standard combinations such as (6c) and (7a-7c) show some typical elements of temporal frames from the L1s (characterised by event shift) mixed with TL patterns (i.e. marking ongoingness

with an imperfective in (6c) and phasal decomposition in (7a)). None of these combinations are ungrammatical, yet they are clearly not target-like.

Quantitative results might suggest that a distinctly lower granularity in BV level learners would coincide with rare attempts to decompose events into phases. Remarkably, this was not the case in any of the examined basic learner groups. On the contrary, production in both groups was found to exhibit instances when learners overgeneralised phasal segmentation, as shown in (8) and (9).

(8) Example of overgeneralising phasal segmentation by a Czech BV learner

- a. *Her mother start to preparing cake for her*
- b. *but her daughter start to play the guitar*
- c. *and she made mistake on cake with letters.*
- d. *And guitar was too noisy*
- e. *that plates start to falling to the floor*
- f. *and her mother start to shouting.*

(9) Example of overgeneralising phasal segmentation by a Hungarian basic learner

- a. *Yes the mother go to the kitchen*
- b. *and there begin to write to the birthday cake 'Happy Birthday'*
- c. *and the child begin in room playing on guitar.*
- d. *And it was falling the dishes from the wall*
- e. *and the mum begin to shout.*

Basic varieties represent a developmental stage where temporal reference is typically marked by lexical means (i.e. time adverbials and emerging lexical markers of temporal boundaries such as *start*, *finish*) and by implicit discourse pragmatic means such as the *principle of natural order* (PNO) (Klein & Perdue

1997; Dietrich *et al.* 1995). Examples (8) and (9) show that temporal boundary markers in the linguistic repertoire of BV learners are not only available but are overgeneralised to any durative verb. This is also found in the advanced learner production. Very interestingly, some atypical uses of inchoatives in BV extend to attempts to employ phasal decomposition for instantaneous events (example from the Hungarian BV group: *the house started damaged* ‘the house exploded’⁴; example from the Czech BV group: *the grandfather start sleeping* ‘the grandfather falls asleep’). Attempts to use causal linkage together with inchoative structures within a single proposition, as in (8e), can be interpreted as examples of mixing typical elements from L1 and TL.

5.3 Task Two

The second task was conducted to test whether task type influences segmentation preferences in L1s and in learner varieties. This task was a description of a static picture and it was used to supplement verbalisations of a dynamic stimulus in task one.

5.3.1 Segmentation in picture descriptions in the source languages

The first step consisted of two separate one-way between-subject ANOVAs; one for spoken and another for written modality, which compared the levels of granularity in the picture descriptions of Czech, English and Hungarian native speakers. Average degrees of temporal partitioning are expressed as granularity

⁴ Only the pertinent utterances are presented at this point without the surrounding context necessary to derive the interpretation provided. The critical reader may wish to look up the relevant context in the event map (Appendix 1).

indices in Table 5.3. Quantitative differences in the numbers of encoded events showed no statistical significance in the written picture descriptions. Neither the mean number of partitions in the Hungarian writings ($M=4.36$, $SD=1.36$) nor the mean number of partitions in the Czech writings ($M=4.11$, $SD=1.08$) were significantly lower than the mean number of events encoded in the English writings ($M=4.53$, $SD=1.29$).

Table 5.3 Comparison of GIs for spoken (Spo) and written (Wri) picture description per native speaker group

	GI - mean number of partitions per discourse fragment	% of foregrounded propositions
English L1 Wri	4.53	64.9%
Czech L1 Wri	4.11	62.5%
Hungarian L1 Wri	4.36	65.3%
English L1 Spo	3.93	51.2%
Czech L1 Spo	3.89	54.0%
Hungarian L1 Spo	3.76	50.3%

The comparison of spoken picture descriptions brought similar results, showing no significant between-group differences for granularity indices (comparing English GIs ($M=3.93$, $SD=1.22$), Czech GIs ($M=3.89$, $SD=1.29$); and Hungarian GIs ($M=3.76$, $SD=1.07$)). Curiously, GIs were somewhat higher in written picture descriptions than in the spoken mode (unlike in the film retellings), however, no significant modality-specific within-language effect was detected. Similar results were found in terms of foregrounding, i.e. no significant between-group differences in spoken L1 descriptions and also negligible differences when comparing written L1 descriptions. In sum, the results show that event segmentation patterns elicited by means of a static stimulus do not parallel those found in responses to a dynamic stimulus. This suggests that task type does have

an influence on event segmentation patterns across languages. In the next step, temporal partitioning in written⁵ L2 vs. written L1 picture descriptions was compared.

5.3.2 Segmentation in picture descriptions across learner varieties

To start with, granularity indices in advanced L2 written descriptions, shown in Table 5.4, were compared with GIs in corresponding L1s and TL. Results of ANOVAs showed no significant differences in this respect; neither between GIs of advanced Czech learners ($M=3.32$, $SD=1.49$) compared with Czech natives and with English natives; nor between GIs of advanced Hungarian learners ($M=3.00$, $SD=1.62$) compared with Hungarian natives and English natives.

Table 5.4 GIs and mean percentages of foregrounded propositions in written picture descriptions of L1 and L2 groups

Group	GI - mean number of partitions per discourse fragment	% of foregrounded propositions
ENL1	4.53	64.9%
CZL1	4.11	62.5%
HUL1	4.36	65.3%
ENC2CZ	3.32	61.8%
ENC2HU	3.00	52.9%
ENB1CZ	2.20	47.2%
ENBIHU	2.49	48.3%

The percentages of propositions in the foreground of the advanced L2 discourse were also found largely compatible with those in the corresponding L1 and the TL (comparing Czech advanced learners ($M=.62$, $SD=.13$) with Czech natives

⁵ Once it has been established that there are no significant modality-specific differences between segmentation patterns in spoken vs. written L1 production, the picture descriptions in learner groups were limited to the written mode.

($M=.63$, $SD=.11$) and English natives ($M=.65$, $SD=.09$); and also comparing Hungarian advanced learners ($M=.53$, $SD=.08$) with Hungarian natives ($M=.65$, $SD=.14$) and English natives ($M=.65$, $SD=.09$).

In line with the expectations, the levels of granularity in intermediate learner picture descriptions were significantly lower than those of corresponding L1s and the TL. More specifically, the significance was $p<.001$ for the differences comparing GIs of Czech basic learners ($M=2.20$, $SD=.86$) with GIs of English native speakers ($M=4.53$, $SD=1.29$); and $p<.001$ also for the differences when comparing GIs of Czech basic learners with GIs of Czech natives ($M=4.11$, $SD=1.08$). As for the Hungarian basic learner group, $p<.001$ was found for the differences comparing GIs of Hungarian basic learners ($M=2.49$, $SD=.84$) with GIs of English natives ($M=4.53$, $SD=1.29$); and $p=.001$ for the differences between GIs of Hungarian basic learners and GIs of Hungarian natives ($M=4.36$, $SD=1.36$). The percentage of propositions expressed in the foreground (i.e. partitions) of basic learner descriptions was also significantly lower than that of corresponding L1 groups and the TL group. Czech basic learners ($M=.47$, $SD=.14$) significantly differed ($p=.003$) from English natives ($M=.65$, $SD=.09$) in this respect; and they also significantly differed ($p=.016$) from the Czech natives ($M=.63$, $SD=.11$). Similarly, the median score for foregrounded propositions of basic Hungarian learners ($M=.48$, $SD=.12$) significantly differed ($p=.006$) from that of English natives and also from that of Hungarian natives ($p=.005$; $M=.65$, $SD=.14$).

5.3.3 Results from qualitative analyses

Although segmentation in L1 picture descriptions was not found to differ in quantitative terms, clear contrasts emerged crosslinguistically for preferences in decomposing particular events into phases. The next step compares discourse samples representative of the L1 groups, examples (10-13), each elicited in response to the same part of the visual stimulus (for the complete picture story see Appendix 2).

(10) Example of segmentation in English L1 written picture descriptions

- a. *Tommy is so excited,*
- b. *he starts playing the drums straight away.*
- c. *He plays for hours very noisily.*
- d. *At ten o'clock, Tommy is still bashing his new drums.*
- e. *The ceiling light twists and shakes,*
- f. *the baby cries.*
- g. *Music keeps blasting from the other room.*

Characteristically for the English written picture descriptions, the event represented by [birthday boy play drums] was referred to as a sequence of explicitly marked inceptive (10b) and progressive phases (10c, 10d, 10g). In the process of event linking, English speakers tended to rely less on exact specification of temporal event boundaries. Instead, they showed a preference for phasal decomposition in order to mark event progression.

(11) Example of event segmentation typical of Czech L1 written picture descriptions

- a. *O dvě hodiny později je oslavenec v pokoji už sám*
Two hours later, the birthday boy is already alone in the room

- b. *a mlátí do bubnů.*
and he is hitting the drums.
- c. *Ve 22:00 už rodičům dochází trpělivost.*
At 10pm the parents are really getting fed up.
- d. *Bubenické kreace jejich syna se nedají přeslechnout.*
The artistry of their son's drumming is impossible to ignore.
- e. *Chtějí sledovat televizi,*
They want to watch TV
- f. *ale přes bicí nejde vůbec nic slyšet.*
but it is impossible to hear anything due to the drums.

By contrast, the written descriptions of the Czech group did not exhibit the same segmentation patterns. Even though the number of partitions was overall comparable to that in the English descriptions, inceptive phases in the Czech production were typically omitted, as in (11b) for the phase represented by [birthday boy start play drums], and progressive phases were often referred to implicitly instead of a direct mention, as in (11d) and (11f) for the phase represented by [birthday boy continue play drums]. The Czech native speakers, compared with the English natives, showed higher reliance on marking event progression via explicit reference to exact temporal boundaries (e.g. 11a, 11c). Hungarian L1 descriptions showed similar segmentation patterns as the Czech ones. Namely, inceptive event phases tended to be skipped, as in (12c), and progressive phases were generally expressed periphrastically, as in (12d) and (12e). Exact specification of event boundaries was also more common in Hungarian L1 (e.g. 12a, 12d) than in the English L1.

(12) Example of segmentation typical of Hungarian L1 written picture descriptions

- a. *8 órakor a többi gyerek már hazament,*
At eight o'clock the other children have already gone home
- b. *és be is sötétedett.*
and it got dark outside.

- c. *Ugyanabban a szobában a kislfiú boldogan dobol.*
The little boy is happily drumming in the same room.
- d. *10 órakor már a szülőknek is elégük van a zenélésből,*
At ten o'clock the parents have already had enough of the drumming,
- e. *nem tudják a TV-t nézni a nagy hangzavar miatt.*
they cannot watch TV because of the noise.

Segmentation patterns in advanced L2 learners' descriptions were similar to those in the advanced L2 film retellings. One of the most pronounced digressions from the TL pattern was overgeneralisation of phasal segmentation. Example (13) illustrates a Czech advanced learner's extension of phasal marking (including inceptives as in (13b) and (13e), progressives as in (13c), and also terminatives as in (13d)) to any durative verb. Although grammatically perfect, such density of phasal marking results in overinformative temporal partitioning compared to the target pattern.

- (13) Example of overgeneralised phasal segmentation in advanced Czech learner production
- a. *He picks up the drum sticks*
 - b. *and starts jumping in the air with joy.*
 - c. *The other three children continue cheering.*
 - d. *The baby stops crawling on the ground*
 - e. *and instead starts playing with the shredded pieces of wrapping paper.*
 - f. *Then everyone leaves the room.*
 - g. *At 8pm the boy starts playing the drums quite loudly.*

Hungarian advanced learner descriptions were similar in this respect, as shown e.g. in (14h). Overuse of phasal markers indicates that advanced learners have a wide repertoire of means for producing texts with high granularity, however, they often use them in a way that diverts from preferences in the TL.

(14) Example of overgeneralised phasal segmentation in advanced Hungarian learner production

- a. *He is very happy with the present*
- b. *and starts practicing immediately.*
- c. *Time flies, it's 8 o'clock*
- d. *but he is still playing.*
- e. *It's 10 o'clock*
- f. *and he is still playing*
- g. *but no one else enjoys it anymore but him.*
- h. *The parents then start to wonder:*
- i. *was it really a good idea to buy Phil that drum set?*

Interestingly, some overuse of lexical temporal boundary markers (particularly *start* and *begin*) surfaced already at the basic stage. Examples (15d) and (15f) illustrate attempts of a Hungarian learner at basic level to mark inceptive phases of events that are not further elaborated by corresponding progressive phases. Nevertheless, this does not mean that progressive phase marking in BV descriptions is absent; and examples (15b) and (15c) from the Hungarian learner database provide due evidence.

(15) Example of overgeneralised phasal segmentation in basic Hungarian learner production

- a. *The boy start using his new hobbi, (sic)*
- b. *from 8pm to 10pm he just played and played,*
- c. *played non-stop.*
- d. *The things on the wall started to move.*
- e. *The younger brother was tired*
- f. *and begin to crei. (sic)*

(16) Example of progressive phase marking in basic ENL2 by a Czech learner

- a. *When he opened box,*
- b. *he couldn't believe his eyes. (sic)*

- c. *In the box he looked nice blue drums.*
- d. *The little boy playing still and still.*
- e. *Again and again and he couldn't stop.*
- f. *His parents wasnt really happy from this present. (sic)*

Also noteworthy in progressive phase marking at basic level is the use of linguistic means to indicate duration. Basic level learners were commonly found to employ temporal adverbials to serve this purpose (such as *still*, *again*), instead of more complex verbal structures present in fully-fledged L1s (e.g. *continues to play*, *goes on playing*). This supports the observations by Dietrich *et al.* (1995:36) that the BV system (subsumed under the wider category of *basic level*; see p.87) is very simple compared to source and target languages but extremely versatile, allowing an easy expression of when something happens or is the case, provided (a) there are enough adverbials, and (b) they are cleverly managed. Examples of a clever management of adverbials by a Czech BV learner in (16d) and (16e) show successful uses of *still* and *again* with the aim to prolong the topic time and add duration for the event represented by [little boy play drums].

5.4 Discussion

Analyses of segmentation in the process of event construal across first languages and learner varieties brought four major results. With respect to crosslinguistic variation, segmentation preferences characteristic for native speakers of a particular L1 were found to be closely linked to the ways grammatical aspect works in that L1. Secondly, the L1 aspectual system was found to play an important role in the process of temporal event partitioning even in advanced

learner production. Thirdly, attempts to reorganise L1 segmentation according to TL patterns often lead to non-standard decomposition of event phases in advanced as well as basic learner varieties. And fourthly, differences in event segmentation choices per group were not influenced by changing the type of modality (written vs. spoken) but were found inconsistent across different task types (i.e. retelling of a dynamic stimulus vs. description of a static stimulus) possibly due to effects of varying task demands. In short, the main results provide multi-faceted evidence in favour of the grammatical aspect hypothesis. The following subsections give a more detailed discussion on each of the major findings.

5.4.1 Language-specific patterns in event segmentation

Significant differences in the levels of granularity in both tested modalities corresponding with the presence of a grammatical marker for ongoingness in the aspectual system of English and its absence in Hungarian are interpreted as crosslinguistic evidence in favour of the grammatical aspect hypothesis. Triangulation of these findings with results from the Czech native speaker data analyses shows that simply the presence of grammatical ongoingness marking in a language system is not sufficient to give a reliable prognosis for the segmentation preferences of its speakers. Findings from Czech L1 suggest that specific ways in which aspect works in a given language need to be considered when predicting particular event segmentation choices. The following step discusses the relation between grammatical aspect and segmentation choices in each language.

L1-specific planning processes in event construal are claimed to be driven grammatically via aspect. Following the grammatical aspect approach (Carroll *et*

al. 2004; von Stutterheim *et al.* 2002), aspectual ambiguity of simplex verbs between perfective and imperfective readings coupled with insufficient grammatical means to clarify temporal relations between events and to mark ongoingness are likely to guide Hungarian speakers to resort to anaphoric event linkage in their L1 discourse. Anaphoric shifting typically induces a frequent use of temporal adverbials which serve to specify event relations. Extensive use of temporal adverbials fits well with a relatively low degree of granularity because TADVs sufficiently help to guide listeners through event progression and thus high resolution of event phases is not necessary.

In comparison with Hungarian speakers, Czech speakers have a wider repertoire of devices in their L1 grammar to differentiate perfectivity from imperfectivity. Nevertheless, similarly to Hungarian speakers, Czech speakers show preference for anaphoric shifting when linking events in discourse. Inclination of Czech speakers towards anaphoric shifting is likely to be caused by the fact that Czech, unlike English, permits perfective verb forms to have a here-and-now interpretation. This structural feature could instigate a higher frequency of perfective forms in Czech film retellings compared with those in English. Frequent use of perfective forms may give rise to automatised attention in Czech speakers to the right temporal boundary of events. Extensive focus on the right boundary and the posttime of events, also observed in Schmiedtová & Flecken (2008), can explain why speakers of Czech, in contrast with the English speakers, refrain from a detailed decomposition of events into inceptive and ongoing phases and generally resort to a more coarse-grained texture in film verbalisations.

In contrast with event segmentation preferences in Hungarian and Czech, systematicity and high regularity of the grammatical coding of ongoingness in English enables its speakers to establish and maintain temporal coherence by deictic event linkage characteristic for zooming in on event phases. Rather than relying on temporal adverbials, English speakers show a preference for marking event progression via high resolution of events into inceptive, progressive and terminative phases. Having compared spoken data with written film verbalisations, these language-specific characteristics were observed to hold true in both modalities. Markers for inceptive and progressive event phases in the English data were commonly combined with atelic but not with telic predicates.

The hypothesis that grammatical aspect has a key role in event conceptualisation (von Stutterheim & Nüse 2003) has been strengthened in two ways: (a) the susceptibility to encoding event phases in an L1 with a fully grammaticalised concept of ongoingness; and (b) a lower sensitivity to the internal temporal constituency of events in L1s with less regular aspectual systems. These findings are consistent with previous research showing that patterns in event segmentation are language-specific and grammatically driven (e.g. Bylund 2011b; Noyau *et al.* 2005). In a wider context of event cognition research, some studies reported that language-specific effects in event encoding only emerge in linguistic tasks but show very limited or no differences in non-linguistic tasks (e.g. Bohnemeyer *et al.* 2006; Genari *et al.* 2002). Examining the connection between language and thought should ideally involve a combination of verbal and non-verbal tasks (Lucy 1996). Future research on event segmentation would therefore surely profit from extending the current tests of the effects of grammatical aspect

and the marking of ongoingness to non-verbal tasks, e.g. by examining memory and attention to event phases.

5.4.2 *Continued reliance on L1-specific patterns in L2*

Overall conformity of L2 production to L1 patterns exhibited in the granularity of both written and spoken film retellings is interpreted as a strong signal for language-specificity in event conceptualisation. Continued reliance on L1-specific patterns when segmenting events in advanced L2 is consistent with the findings from related studies reporting very limited or no traces of conceptual reorganisation in L2 (e.g. Hendriks *et al.* 2008; Schmiedtová 2004; von Stutterheim & Lambert 2005).

If there is no conceptual reorganisation in advanced L2, why then did the differences between L2 and TL segmentation not correspond to the distance between L1-L2 segmentation? In other words, why did the Czech learners segment events with lower granularity than the Hungarian learners if the Czech L1 GI was closer to the English one than the Hungarian L1 GI? This interesting result can be explained as an effect of frequently employed incompatible temporal means by the Czech learners, which occurred hand in hand with reduced granularity in comparison to ENL1 but also ENL2HU production. Detailed scrutiny of the Czech advanced learner data revealed that those parts of retellings where inchoatives were incongruously used in combination with verbs not decomposable into phases (e.g. with states *he started being disabled again* or with achievements *the house starts to explode*) and also where they were linked directly to endpoints (e.g. *she tries to wake him up until the mother calls her*)

generally coincided with lower granularity than their corresponding parts in the ENL1 and ENL2HU retellings. This interlanguage phenomenon of using inchoatives in a non-standard way by the Czech learners can explain why the scale of differences for L2 vs. TL segmentation did not accord with the prediction based on L1-L2 distance. Language distance measured as variances in the grammaticalisation of ongoingness in the aspectual systems therefore cannot serve as an adequate prognosis of the scale of segmentation differences between L2 and TL without considering interlanguage characteristics.

Non-standard decomposition of event phases has also appeared at the BV level. By using adverbial and verbal structures for phasal partitioning learners show that they try to go beyond segmentation patterns typical of their L1. They employ forms that do indeed represent the phasal perspective typical of the TL but problems arise with fully implementing the principles which the TL perspective requires (such as the use of inchoative structures for initiating event chains and elaborating them via progressive and terminative phases). Overgeneralising phasal segmentation to any durative verb produces an incompatible mixture in which formally adequate information units are inadequately contextualised. In other words, the *flow of information* (Chafe 1987) gets disrupted by inappropriate selection and combination of temporal categories (Carroll & von Stutterheim 2003). Producing forms that fit the segmentation principles of the target language (e.g. inchoative forms and deictic anchoring) but having difficulty in locating them in larger information units suggests continued conformity of learners to the discourse organisational principles of their L1. This view is consistent with the thinking-for-speaking framework proposed by Slobin (1996) and accords with the

assumption that the aspectual system of the speaker's native language has an influence on the process of event segmentation in L2.

5.4.3 *Segmentation patterns and task type*

Comparison of responses to two tasks served to examine whether segmentation patterns differ depending on the type of task, i.e. description of static pictures vs. verbalisation of a short animation. The results from native speaker data analyses showed significant between-group differences for the levels of granularity in film verbalisations but not in picture descriptions, pointing to an effect of task type on segmentation patterns. This discrepancy in the results could be linked to 'grounding' (Berman & Slobin 1994), i.e. differences in marking event information as part of the main line (foreground) and side structure (background) across task types. One of the main features in film retellings is that the relation between the foregrounded events, defined as forming the story line, is a shift-in-time relation with states referentially attached to the foregrounded events as backgrounded material (e.g. [foreground] *the mother ran into the living room and shouted at the boy*, [background] *who had a massive grin on his face*). A different picture for the dominant temporal relation emerges for descriptions, where event-related propositions commonly maintain the temporal frame and events embedded into this frame can be regarded as background (cf. von Steutterheim 1991:391, von Steutterheim & Klein 1989:50) (e.g. [backgrounded] *all friends are at the table with the birthday boy and the mother facing them has a baby in her arms*; instead of the equally felicitous [foregrounded] *all friends are partying at the table and the mother is approaching with a baby in her arms*). This difference was reflected in the results showing an overall higher proportion of backgrounded information

in picture descriptions (in spite of the shift-in-time triggers in the elicitation material, i.e. wall clocks, setting sun). In connection with the differences found in temporal partitioning of events between the two task types, it seems that specific levels of segmentation are more pertinent for organising temporal information in the process of building a story from movie fragments (perhaps because there is typically a higher density of information in the foreground) than in the process of building a story from pictures (in which there is commonly more information in the background). An alternative explanation is that segmentation differences may be an effect of varying task demands. When seeing a multi-sensory stimulus (sound + moving scenes) in which events unfold in time, speakers are likely to be prompted to remember and segment actions in a different way than with a mono-sensory picture available for reference during the whole story-building process.

5.5 Conclusion

This chapter looked at event segmentation patterns exhibited in narratives based on film retellings and picture descriptions by Czech, Hungarian and English native speakers, and compared them to those of basic and advanced L1 Czech and Hungarian learners of L2 English. The main question was whether the learners are susceptible to reorganising L1 segmentation principles in order to match those typical of the target language.

Basic and advanced learners from typologically distant L1s provided twofold evidence for Slobin's (1996) Thinking for Speaking hypothesis and their language production exhibited signals that event conceptualisation processes are

affected by the speaker's native language. Czech as well as Hungarian advanced learners encountered considerable difficulties in recognising the role which the grammaticalised temporal concept of ongoingness plays in English information organisation. Firstly, despite virtually flawless formal accuracy, they have not sufficiently reorganised their L1 principles so that they are compatible with deictic event linkage. Problems on this level support the assumption that if the organisation of temporal information in the target language conforms to different principles than in the source language, learners tend to remain rooted in their L1 principles. Secondly, event segmentation patterns even in advanced L2 also largely converged with those in the respective L1s and attempts towards reorganisation on this level repeatedly resulted in atypical decomposition of event phases. Contextual analyses of the non-standard breakdown of event phases made it apparent that these relate to reduced granularity levels for the advanced learners, emerging presumably as an avoidance strategy against complicating temporal information flow. This logic can explain why event segmentation principles in English for many learners with typically lower granularity levels in their L1s are very difficult even for advanced L2 learners to fathom and internalise. Although knowledge for increasing the degrees of granularity to target-like patterns is evidently present at the local level of phasal decomposition, difficulties arise at the global level of discourse organisation.

In sum, the analyses offered some stimulating insights into the nature and idiosyncracies of event conceptualisation in SLA and the results suggest that the process of event segmentation of Czech and Hungarian learners of English mostly rest on L1 fundamentals. The findings support Slobin's Thinking for Speaking

hypothesis on two levels: (a) they confirm that different language systems can influence the principles used for articulation of experience; and also (b) they illustrate that L1 Thinking for Speaking principles are immensely resistant to reorganisation in adult L2 acquisition.

Chapter 6

Selection of endpoints in goal-oriented motion events

6.1 Introduction

Space represents a fundamental cognitive category and the understanding of spatial concepts such as direction and distance is vital even for the simplest human activities. The capacity to recognise, categorise and interpret spatial relations emerges early in development and children easily and regularly express spatial information they observe, be it object location, orientation towards a goal or motion along a path (Allen *et al.* 2007, Bowerman & Choi 2003, Lakusta & Landau 2005). Motion is an especially intriguing category. It represents changes in spatial relations and consists of a network of semantic components including Path, Manner, Ground and Figure (Talmy 1985). Path can be defined as the trajectory of a moving entity, i.e. of a Figure, which moves from a source (point A), possibly through some milestone (point B) to a goal (point C). Ground refers to an explicit feature of the physical environment serving as source, milestone or goal; and Manner denotes the motor features such as the rate of movement and the degree of effort involved.

Given the experiential significance of motion for our orientation in everyday life, its expression in language naturally generated extensive research interest. Earlier assumptions about language-independence/universality of the factors that constrain spatial reference had to face vast crosslinguistic diversity found within this domain. Prominent differences were identified in the mapping of semantic

spatial elements onto linguistic structures (Choi & Bowerman 1991, Slobin 1987, Talmy 1985). For instance, speakers of satellite-framed languages such as English or German typically conflate Motion with Manner in the main verb and express Path in non-verbal satellites (e.g. *She ran across the bridge*); whereas speakers of verb-framed languages such as French, Turkish or Japanese tend to conflate Motion with Path in the main verb and encode Manner in peripheral structures or not at all (e.g. *She crossed the bridge running*) (Talmy 1985).

Another strand of related research focussed on investigating the possible cognitive and behavioural repercussions of the crosslinguistic differences in spatial language (Gumperz & Levinson 1996, Levinson 2003, Lucy 1992). The effect of language on how people think, memorise and reason about spatial relations and directions was found to correlate strongly with frames of reference typically used in a given language. For example, speakers of languages with a dominant relative frame of reference such as English or Dutch tend to verbalise and remember spatial relations in relative coordinates (e.g. *The dog stood to the left of the gate*); while speakers of languages with a dominant absolute frame of reference such as Tzeltal or Guugu Yimithirr tend to reason as well as recall spatial relations in absolute coordinates (e.g. *The dog stood to the north of the gate*) (Levinson 2003).

In this research climate, further steps to explore the implications of crosslinguistic contrasts in spatial reference led to testing their impact on second language learners (Cadierno 2004, Hendriks *et al.* 2008, Hohenstein *et al.* 2006). The rationale driving this line of investigation was that if language-specific principles guide L1 speakers in their reference to space, these principles will affect their process of acquiring a second language. In other words, L2 acquisition

paths should vary in accordance with the typological contrasts between the learner's source and target languages. Research on the acquisition of caused motion expressions in L2 provided support for these assumptions. Hendriks *et al.* (2008) tested English adult learners of French at different stages of L2. Their results showed developmental progress in terms of semantic density (i.e. increases in the quantity of information per utterance correlated with increases in proficiency levels), as well as influence of source language principles for spatial reference even at late stages of L2 acquisition. Digressions from target patterns were found in the way learners distributed spatial information across different linguistic means. More specifically, although the English learners evidently succeeded in acquiring the linguistic tools necessary for producing French-like spatial reference (e.g. gerunds and subordinate constructions), they largely remained fixed in the pattern typical of their L1 (i.e. conflated Motion + Manner and expressed Path in a satellite). Occasional attempts to conform to the French way of spatial information packaging sometimes resulted in hybrid forms (e.g. morphing French prepositions into satellite-like devices as in *au travers la route* 'across/through the road').

This chapter aims at contributing to insights regarding the impact of language-specific determinants in the process of acquiring spatial language in L2. The determinant under scrutiny is grammatical aspect and the investigated spatial phenomenon is endpoints in goal-oriented motion events. Instead of examining merely whether typological aspectual properties do or do not interact with specific spatial expressions across languages, the main focus is on unravelling the exact nature of how specific grammatical aspectual properties can influence endpoint selection in learners' L1 and L2. In order to do so, the first issue to tackle is the

identification of typological contrasts regarding endpoint encoding across first languages. Subsequently, analyses of how these contrasts are linked to specific aspectual properties can follow. And ultimately, the role of L1 aspectual operators in the course of L2 spatial language development can be assessed. For this type of research it is crucial to have a comparison of at least two typologically different source languages. Should transfer phenomena from L1 to L2 surface, an experimental setup with learner groups from structurally distinct L1s in terms of grammatical aspect will allow us to differentiate whether transfer effects arise due to L1-specific properties or if they are more attributable to the general difficulty to recognise and adopt target-like organisation patterns. The following step is a brief overview of recent findings on endpoint selection contrasts across L1s and L2 varieties so as to nest the current work in a suitable empirical context.

6.1.1 Endpoint selection contrasts across first languages

Previous studies examining the impact of grammaticalised aspect on endpoint selection in goal-oriented motion events compared how speakers of English, German, Dutch, Czech, Russian, Spanish, Swedish and Standard Arabic verbalise and attend to relevant visual input (Bylund 2011a, Flecken 2010, Schmietová *et al.* 2011, von Stutterheim & Carroll 2006). The task across these studies was to carefully watch video clips of unrelated everyday motion events and to verbalise *what is happening* as soon as it is recognisable. One important converging finding was that differences in conceptualising motion events did not cluster on the basis of cultural similarity but were rather attributable to typological analogies. Speakers of languages with a high frequency of aspectual forms for the expression of ongoingness (English, Spanish, Russian, Standard Arabic) tended to focus on the actual event phase most salient at the time of verbalisation and omitted

possible endpoints (e.g. *a family is walking in the car park*). However, speakers of languages with less regular or no grammatical aspectual marking for ongoingness (German, Dutch, Czech, Swedish) preferred a holistic view on the same events and tended to include endpoints even if these were not reached in the actual video but were results of pragmatic inference (e.g. *a family walks across the car park to a supermarket*).

Looking beyond the purely linguistic level of analysing event construal preferences, thought-provoking correlations were found between endpoint encoding and attention allocation measured via eye-tracking (Flecken 2010, Schmiedtová *et al.* 2011, von Stutterheim *et al.* 2012)¹. Visual attention paid to endpoints while watching the clips were found to mirror linguistic preferences. Interestingly, these studies showed that speakers who prefer a holistic view on events (e.g. German L1 speakers) fixate on the possible endpoint significantly longer both before and after speech onset than speakers preferring a phasal perspective (e.g. English L1 speakers). These results signal that the influence of linguistic categories on event cognition can occur not only during but also before the verbal encoding takes place. In typological terms, these findings imply a distinction between a group of languages whose speakers conceptualise motion events phasally and are less attentive to endpoints vs. a group of languages whose speakers view motion events holistically and show a higher attention level to endpoints. The key structural property these differences relate to is argued to be grammatical aspect and whether a language has a specific marker for ongoingness or not.

¹ These studies set out to test the *Seeing for Speaking Hypothesis* (Carroll *et al.* 2004), positing that if language X encodes a particular concept grammatically and language Y does the same

Another finding that underscores the connection between language structure and event cognition comes from memory tests. Memory tests following the verbalisation task showed that speakers who view events phasally not only omit mentioning endpoints and visually fixate less on them but they also remember significantly fewer of them than speakers adopting a holistic view (von Stutterheim *et al.* 2012). In sum, crosslinguistic studies on conceptualisation of motion events suggest that the impact of the language-specific category of grammatical aspect may extend beyond the level of organising content for expression to the level of visual and cognitive processing including attention and memory.

6.1.2 Previous research on selecting endpoints in learner discourse

Recognising the importance of aspectual operators in crosslinguistic variation regarding event construal has triggered interest in looking at the implications of typological diversity for second language acquisition. Various SLA scenarios were examined in search of a better understanding of how language-specific aspectual differences guide the acquisition process (e.g. early bilinguals of Dutch and German: Flecken 2010; advanced Czech and Russian learners of German: Schmiedtová & Sahonenko 2008). One group of studies with immediate relevance to the present work was conducted with highly advanced L2 learners. In a video-retell task by von Stutterheim (2003), English learners of L2 German still followed the L1 pattern, i.e. relied on the phasal perspective and encoded significantly fewer endpoints than the native Germans. However, German learners of L2 English shifted towards the target pattern and reduced mentioning endpoints for goal-oriented motion events to native-like frequencies. The reason claimed for

lexically, then X-speakers will attend to the relevant feature of a given visual scene to a greater extent than Y-speakers.

this difference was that the phasal perspective in English is easier to pick up as it is formally encoded and more perceptually salient than the holistic perspective in German. However, the argument of perceptual saliency does not hold for the findings reported by Bylund (2010a), who observed that advanced Spanish learners of L2 Swedish managed to overcome their habitual L1 patterns and encoded significantly more endpoints than the Spanish controls. In contrast with this observation, Schmiedtová & Sahonenko (2008) looked at endpoint encoding of Czech and Russian learners of L2 German and found that both learner groups exhibited patterns favoured in the corresponding source languages. Whilst the Russian learners systematically inclined to a phasal perspective, the Czech learners preferred holistic event descriptions. It seems that a richer comparative perspective is essential for taking research within this framework a step forward.

The question of whether advanced L2 learners are able to reorganise event component selection principles of their L1 still remains open as highly similar research methods have brought discrepant findings. This work adds two methodological improvements to further understand how exactly endpoint selection principles are or are not reorganisable in favour of the TL pattern and why. The first novelty lies in testing advanced learners from two typologically distant source languages (Hungarian and Czech) that both differ from the L2 (English) owing to lower degrees of perceptual saliency in encoding ongoingness. If perceptual saliency in the L2 alone plays the leading role for the acquisition of endpoint selection principles, no remarkable differences should be expected between two groups with characteristic holistic perspectivation in their L1s whose target is phasal perspectivation in L2. But if L1-L2 similarities facilitate second language acquisition, then Czech learners should have fewer problems with

successful adoption of target-like selection principles than the Hungarian learners. The second original feature is measuring endpoint selection elicited in responses to two coherent stories²; one presented in the form of a video clip and the other as a picture sequence. The rationale followed in this design is that coherent stories reflect the complexity of real life situations more genuinely than single decontextualised events employed in earlier research on endpoint selection.

6.1.3 *Research questions and hypotheses*

The specific research questions (Qs) investigated in this chapter with the corresponding hypotheses (Hs) are:

Q1: What are native speakers' endpoint selection preferences in Czech, English and Hungarian discourse and how do they relate to grammatical aspect, especially to the formal marking of ongoingness in these languages? Do language-specific temporal event segmentation patterns interact with endpoint selection preferences?

H1: In keeping with the grammatical aspect hypothesis, significant crosslinguistic contrasts are expected for endpoint selection preferences, reflecting the levels of regularity in which ongoingness is formally encoded in the aspectual systems of these languages. Therefore, speakers of Hungarian and Czech will encode more endpoints than speakers of English, and this trend should be evident across modalities and task types. Endpoint selection contrasts will emerge without necessary connection to event segmentation patterns as

² This choice was made with awareness that when the expression of events is nested in discourse, it is possible that the following discourse may make specification of a given endpoint highly important or less important, which is a variable not featuring in single event descriptions.

selection and segmentation are two autonomous conceptualisation processes (cf. Habel & Tappe 1999).

Q2: Should significant contrasts in endpoint selection emerge between the source and the target languages, do Czech and Hungarian basic and advanced learners of L2 English shift towards L2 principles or do they continue selecting endpoints as in their L1s? What role can be assigned to the perceptual saliency of formal ongoingness marking in L2 for endpoint selection?

H2: Accumulating evidence from related studies provides a good indication that if L2 learners strongly resist conforming to L2 principles guiding event cognition, as shown for segmentation, they are highly likely to also adhere to L1-specific principles for other event conceptualisation processes including selection. Endpoint frequencies are thus hypothesised to diverge from the target pattern for both L2 groups at both tested levels of proficiency. In line with this prediction, the role of perceptual saliency regarding ongoingness marking in L2 will be negligible and learners will continue to describe motion events in an L1-like fashion, i.e. with ongoingness defocussed and endpoints frequently specified.

6.2 Task One

The first task looks at the encoding of endpoints for goal-oriented motion events (GMEs) in film retellings. Results are presented in four comparisons. The aim of the first comparison is to analyse if and how endpoint selection principles differ across L1s and whether differences between groups interact with aspectual

properties in the corresponding L1s. The second comparison focuses on selection principles characteristic for L2 varieties. The aim of the third comparison is to examine whether selection and segmentation are clearly separable and independent processes; and the fourth provides a qualitative perspective on the results.

6.2.1 Endpoint selection in film retellings in the source languages

Figure 6.1 illustrates how endpoints are typically distributed across the expression of motion events by native speakers of Czech, English and Hungarian. Written and spoken data is analysed side by side to assess possible modality effects.

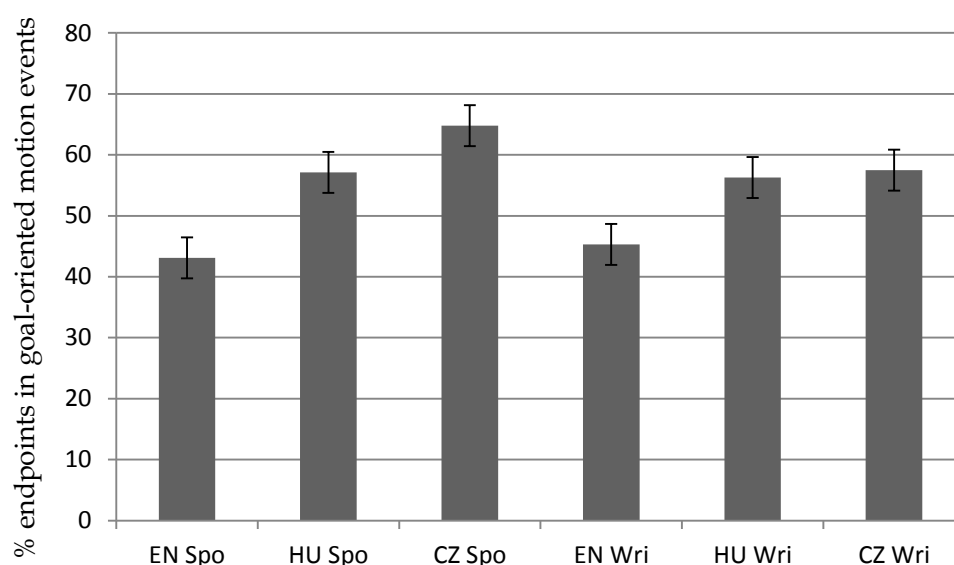


Figure 6.1 Median percentual values of endpoint frequencies in GMEs for spoken (Spo) and written (Wri) native speaker film verbalisations.

In the first step, a significant difference was found between the frequencies of endpoints encoded in goal-oriented motion events in the film retellings of the three language groups [$F(2, 42)=12.07, p<.001$]. Post hoc comparisons (Tukey HSD test) showed that the English native speakers ($M=42.9, SD=11.9$) verbalised

significantly fewer endpoints than the Czech ($M=63.2$, $SD=12.5$) and the Hungarian native speakers ($M=57.4$, $SD=14.3$); $p<.001$ for English vs. Czech and $p=.004$ for English vs. Hungarian. No significant difference was present between the latter two groups. Looking at the written accounts, we can see that native speakers are very systematic in how they choose to verbalise endpoints. Writings also exhibited a significant difference in the frequency of encoding endpoints [$F(2,42)=7.43$, $p=.002$]. Endpoints in English written discourse ($M=45.1$, $SD=5.66$) were significantly rarer than in the Czech ($M=57.8$, $SD=10.7$) and the Hungarian written discourse ($M=55.8$, $SD=11.8$); $p=.002$ for English vs. Czech and $p=.012$ for English vs. Hungarian. The difference between the Czech and the Hungarian written production was minimal in this respect.

6.2.2 *Endpoint selection in film retellings in advanced and basic L2*

The second comparison concerns the same factor in advanced L2 data. Results of ANOVAs, plotted in Figure 6.2, show that the differences in selecting endpoints for goal-oriented motion events in L1 English vs. advanced L2 English retellings were not significant [$F(2,42)=2.56$, $p=.089$]. Surprisingly, neither the Czech advanced learners ($M=52.1$, $SD=11.4$) nor the Hungarian advanced learners ($M=51.1$, $SD=13.3$) differed significantly from English L1 regarding the frequencies of selecting endpoints ($p=.11$; $p=.17$ respectively). This suggests that advanced learners from both tested groups did quantitatively manage to adjust to endpoint selection patterns typical of the target language.

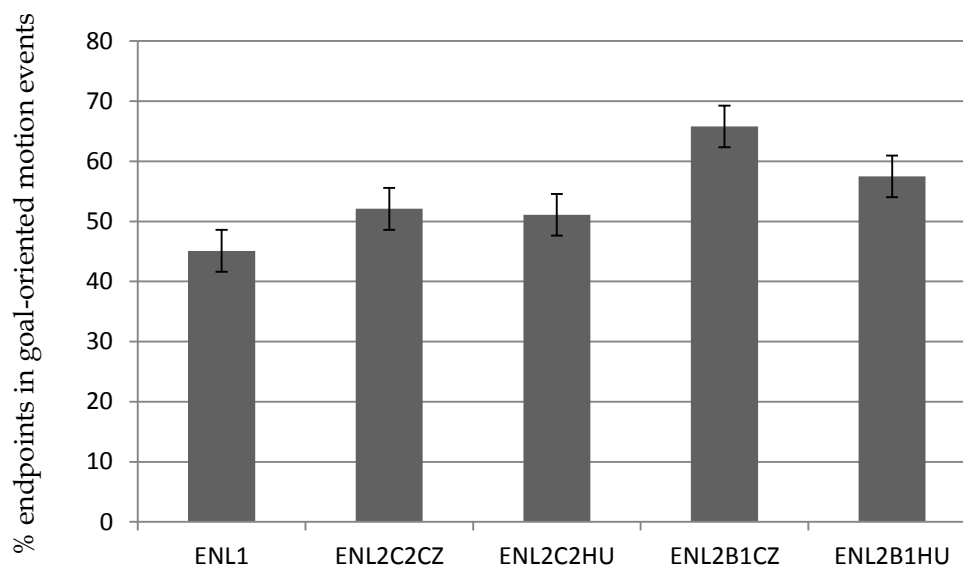


Figure 6.2 Median percentual values of endpoint frequencies in GMEs for film retellings in learner groups and the English L1 group

Considering how far learners digressed from the endpoint selection principles of their corresponding L1 groups, a significant difference emerged between the advanced Czech group and the Czech L1 group [$F(2,42)=6.37$, $p<.05$]. Hungarian advanced learners also noticeably differed from the Hungarian L1 group in qualitative terms, however, quantitatively the difference did not reach statistical significance [$F(2,42)=2.07$, $p=.16$].

As for the basic learner retellings, the frequencies of endpoints in both BV groups resembled corresponding L1s, and they were significantly higher than in the target language [$F(2,42)=14.16$, $p<.001$]. In more detail, unlike the advanced groups, both the Czech basic learners ($M=72.1$, $SD=17.3$) and Hungarian basic learners ($M=57.5$, $SD=15.6$) differed significantly from the English native group ($p<.001$, $p=.008$ respectively). No statistical significance was detected for differences between the basic learner groups and the corresponding L1 groups.

6.2.3 Assessing the relationship between selection and segmentation

The third comparison focusses on assessing the relationship between the number of GMEs expressed in the guitar story and the rate of endpoints selected in these GMEs. If speakers of language X systematically decompose the same stimulus using significantly more GMEs than speakers of language Y, it may follow that X speakers will also tend to select significantly more endpoints for GMEs than Y speakers. Nevertheless, Table 6.1 shows that the two variables did not correlate significantly in the L1 data [$r(45)=.11$, $p=.49$].

Table 6.1 Pearson correlations between the median number of GMEs³ and the expressed endpoints in L1 and L2 film retellings

	Mean number of GME	% Endpoints per GME	Correlation coefficients
English L1	17.0	42.9	}.105 (n.s.)
Czech L1	14.6	63.2	
Hungarian L1	12.1	57.4	
English L1	17.0	42.9	}-.355*
EnL2C2Cz	9.6	52.1	
EnL2C2Hu	11.4	51.1	
English L1	17.0	42.9	}-.365*
EnL2B1Cz	12.73	72.1	
EnL2B1Hu	7.1	57.5	

It means that the frequency of endpoints is not directly attributable to the amount of GMEs expressed. Confirming the original prediction, this result clearly signals that the processes of segmentation and selection do not necessarily work in tandem. Pearson correlation coefficients were also computed to assess L2 data in the same respect. Table 6.1 shows that the two variables were found to correlate

³ The GME means were calculated from the averages of all GMEs per participant, which then served as the basis for counting the group means shown in Table 6.1 (homogeneous subsets of 15 participants in each group).

negatively in the advanced L2 data compared with TL data [$r(45)=-.36$, $p<.05$] as well as in the basic L2 data compared with the TL data [$r(45)=-.37$, $p<.05$]. For the groups in question it means that the more goal-oriented motion events participants encoded the fewer endpoints they tended to select. Whatever other factors might have contributed to this result, the possibility of an inverse proportion between the number of GMEs and endpoints is interpreted as clear evidence that segmentation and selection are two autonomous processes that may relate with each other in various ways. Further support for the view that segmentation and selection are not necessarily related comes from correlation tests by language. These tests showed that clear correlation for the two variables emerges in one language (e.g. in spoken production of the Czech group $r(45)=.448$, $p<.05$) but not in another (e.g. in spoken production of the English L1 group $r(45)=.049$, $p=.086$).

6.2.4 Results from qualitative analyses

From a qualitative perspective, analyses of encoding endpoints focus on motion events for which the goal points represent clear options in the selection process, i.e. for which the endpoints are inferable yet not reached by the moving entities in the video. Thus the critical items for which crosslinguistic contrasts were hypothesised are locomotive events shown in their initial or intermediate phases. The control items, i.e. for which very similar rates of endpoint specifications were expected in the selection process crosslinguistically, are locomotions in which the moving entities are shown to reach the endpoint. This indeed proved to be the trend in English, Czech and also Hungarian native speaker production, as shown for retellings of the same input in example 1.

- (1) Examples of goal-oriented motion events shown to reach an endpoint, as typically encoded by English, Czech and Hungarian native speakers

EN: a. *the boy plugs the guitar **into the amp***

b. *mum is happily piping Happy Birthday **on a sponge cake***

CZ: c. *kluk si zapojil tu kytaru **do reprobedny***

the boy plugged that guitar into the amplifier

d. *maminka začne psát přání **na dort***

mum starts to write her best wishes on the cake

HU: e. *a srác **az erősítőhöz** csatlakoztatja a gitárját*

the boy connects the guitar to the amplifier

f. *az anyuka írja **rá a tortára** hogy Boldog születésnapot*

mum writes Happy Birthday on the cake

Clear crosslinguistic contrasts emerged for motion events with no endpoints reached in the video. Whilst English speakers tended to focus on the event phases that are most prominent in the stimulus, Czech and Hungarian speakers systematically preferred to report GMEs together with their likely endpoints. Example 2 illustrates these preferences in typical descriptions of a scene depicting a young boy having received presents and running, possibly towards them.

- (2) Example of a goal-oriented motion event not shown to reach an endpoint, as typically encoded by English, Czech and Hungarian native speakers

EN: *The boy pulls off the party hat and starts running.*

CZ: *Klučina odchází od staršího pána a **běží k dárku.***

the boy is leaving the old man and is running to the present

HU: *Az öregebemtől elfutva örömittasan **szalad a csomagokhoz.***

having run from the old man he runs to the parcels overjoyed

A close qualitative data inspection also revealed that speakers of Hungarian and Czech, i.e. languages that seem to require an endpoint for the construal of

reportable motion events, readily express endpoints even if the corresponding action verb is phasally marked as inchoative or progressive (example 3c-f). Although this is grammatically perfectly felicitous in all examined languages, inchoative and progressive verb marking in combination with endpoints was extremely rare in the English L1 data (e.g. *she is starting to write some text on top of the cake*).⁴ Instead, English speakers tended to verbalise more complex event phases as sequences of ongoing actions (example 3a, 3b) and express endpoints, if at all, at the end of sequences as non-progressive actions.

- (3) Examples of GMEs in inchoative and progressive structures expressed by English, Czech and Hungarian native speakers

EN: a. *As pots and pans **start falling** from the cupboards of the kitchen, which are shaking due to the noise, the mother walks back into the living room.*

b. *Plates **start falling off** the kitchen shelves and the pans hanging on the walls are rattling. She's **jumping** and is not happy.*

CZ: c. *mamince vše **padá na zem, vbíhá do obýváku***

for mum everything is falling on the ground, she is running into the lounge

d. *když **začínala psát přání na dort** tak se vyděsila*

when she was starting to write on the cake she got petrified

HU: e. *elkezdenek lehullani a tányérok és az anya dühösen **rohan be a szobába***

the plates start falling down and the mother is angrily rushing into the room

f. *előveszi a tortát és boldogan **elkezdi ráírni** a 'Boldog Szülinapot' feliratot*

she takes the cake and merrily starts to write the 'Happy Birthday' sign on it

The response pattern of Czech and Hungarian advanced learners of English neatly parallels that of native English speakers in terms of endpoint frequencies. Judging solely by quantitative results it would therefore be tempting to conclude that advanced L2 learners managed to adjust their L1 selection principles to match

⁴ This unexpected finding is all the more surprising given that the overall use of phasal markers in English L1 is relatively high.

the standard of the L2. However, the learners' typical ways of distributing endpoints across linguistic structures did not mirror those of the English native speakers. Advanced learners combined a wider range of structures with endpoints whereas the choice of English native speakers was much more systematic. More explicitly, advanced learners use fewer endpoints than the corresponding L1 controls but they still combine endpoints with inchoative and progressive verb marking for GMEs, which is a tendency that clearly digresses from target-like information selection patterns. Instances of such combinations were recurrent in Czech as well as in Hungarian advanced learner production (examples 4a-d). In sum, observations regarding endpoint selection in advanced L2 indicate that learners have no difficulty in expressing complex facts and, actually, by combining phasal marking with GMEs and endpoints they often exceed the complexity of information typically included in corresponding English L1 structures. Due to direct analogies observed in learners' L1s, these digressions from target-like event component selection patterns are claimed to qualify as symptoms of first language transfer on the conceptual level.

- (4) Examples of GMEs in inchoative and progressive structures expressed by Czech and Hungarian advanced learners

CZ: a. *all the plates **start to fall to the ground** because of the loud noise*

b. *losing her temper **she's running into the room** where Jimmy's playing*

HU: c. *she just wants to write 'Happy Birthday' on the cake with chocolate, but as she **starts to write it on it**, noise is coming from the other room*

d. *and the grandfather is putting down the guitar and he is **sitting back in his wheelchair***

A striking similarity to selection patterns followed by advanced learners is already detectable at much earlier stages of L2 development. Basic level learners

also sometimes select endpoints for GMEs in structures that go beyond the needs of target-like information selection. Attempted uses of GMEs with endpoints in relatively complex constructions (such as in a temporal subordinate clause in 5a; with an inception and a volition marker in 5b, 5d and 5c respectively) manifest learners' persistence to fall back on source language event component selection principles. It is remarkable to see that BV learners try to employ semantically dense phrases despite lacking sufficient formal L2 competence and also despite unnecessarily complicating their second language performance. Such attempts constitute further evidence in favour of the impact of L1-specific typological properties on the L2 acquisition process. As expected, the transfer of L1 selection patterns surfaces at both proficiency levels in both source language groups with both tested modalities, and it is more robust in earlier L2 development than it is at advanced stages.

- (5) Attempts to combine GMEs with endpoints in more complex temporal structures by Czech and Hungarian basic level learners

CZ: a. *when she **writing Happy Birthday on his cake** now music playing very loud*

b. *and he **tries to wrote some text to his birthday cake***

HU: c. *and she **want to start to write something on the cake** with the cream*

d. *mother went to the kitchen and there **begin to write to the birthday cake***

The influence of native language on the selection process in basic L2 is clearly evident in GMEs with unreached but inferable endpoints (e.g. CZ: *he sit down back to chair*; HU: *and he take off the guitar on the floor*). For these cases, selection contrasts are measurable simply by checking the presence of endpoints in the L2 vs. their absence in the TL. Diagnosing L1 effects becomes far less straightforward for motion events with reached endpoints, for which the L2 vs. TL

contrasts often lie only in the difference between employing progressive vs. simplex verb forms. Optionality of V+ing forms on the basic variety level generally presents a challenge for a clear-cut analysis of this type. In the examined datasets, interchangeable use of V+ing and simplex forms for endpoint denoting GMEs occurred frequently in both BV groups regardless of L1, as shown in 6a-d.

- (6) Examples of GMEs with endpoints in V+ing and simplex structures, as expressed by Czech and Hungarian basic level learners

CZ: a. *when mum coming to the living room /mum giving this box from this child*

b. *child plug connectors of guitar to amplifier and pull the volume to maximum*

HU: c. *a post carried it for the boy and the mother giving this present to Jamie*

d. *and mother go to bigger room / the kid put on on his face pink sunglasses*

An effective way to cope with this challenge was to limit structural comparisons to unambiguous cases (e.g. 5b-d) and to focus exclusively on the endpoint components in analysing formally indistinct constructions.

6.3 Task Two

The aim of the second task is to use a static picture story as an elicitation tool to test whether endpoint selection patterns across groups mirror those found in the film retellings. The illustrations in the picture story show GMEs with inferable endpoints as well as GMEs with clearly reached endpoints. Results are presented in four steps, including (a) analyses of endpoint selection patterns in L1s; (b) comparisons of L1 patterns with L2 varieties; (c) correlation tests between selection and segmentation preferences; and (d) qualitative comparisons of representative group-specific responses.

6.3.1 Endpoint selection in L1 picture descriptions

Figure 6.3 compares the median frequencies of endpoint components encoded for motion events by native speakers of Czech, English and Hungarian in their L1 written and spoken responses.

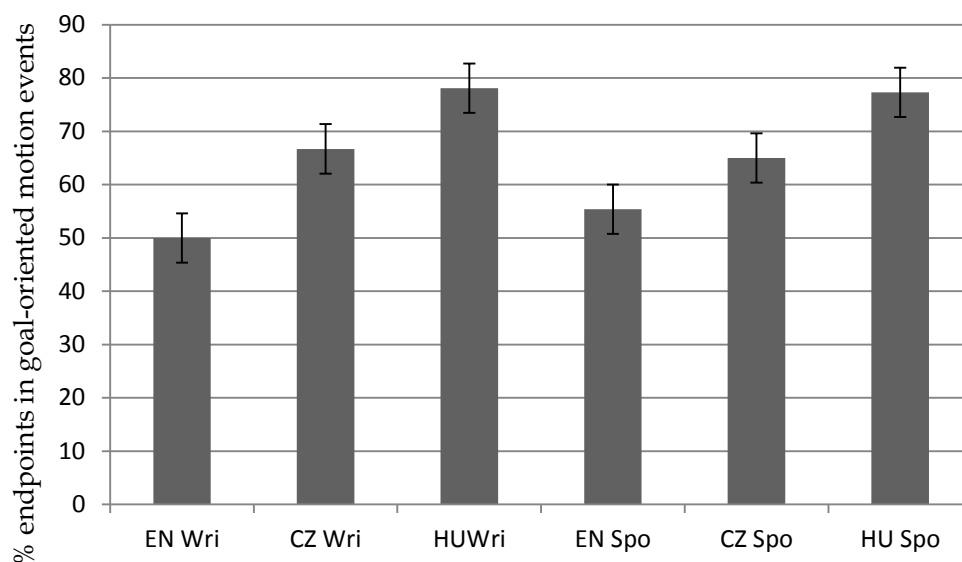


Figure 6.3 Median percentual values of endpoint frequencies in GMEs for spoken (Spo) and written (Wri) native speaker picture descriptions

In accordance with the predictions concerning the influence of L1 aspectual properties on event component selection preferences, a significant difference emerged in the frequencies of mentioning endpoints for goal-oriented motion events in the spoken picture descriptions of the three language groups [$F(2, 42) = 8.09, p < .001$]. Post hoc comparisons (Tukey HSD test) showed that the English native speakers ($M=55.4, SD=19.0$) verbalised significantly fewer endpoints than the Hungarian native speakers ($M=77.3, SD=21.4$); $p < .001$. Czech native speakers' number of encoded endpoints ($M=65.0, SD=13.6$) was also higher than the English but lower than the Hungarian, showing a trend but not significantly different from any of the two. When switching modality, written production also

exhibited a significant difference in the frequency of encoded endpoints [$F(2,42)=4.84$, $p=.013$]. Endpoints in English written descriptions ($M=50.0$, $SD=24.8$) were significantly rarer than in the Hungarian writings ($M=78.10$, $SD=20.8$); while endpoint frequencies in the Czech writings ($M=66.7$, $SD=25.2$) were between the two, again, showing a trend but not significantly different from either English or Hungarian. The dominant response types found across tested L1s are largely concordant with the overall quantitative results in task one, reflecting crosslinguistic variation in selecting endpoint components for goal-oriented motion events.

6.3.2 Endpoint selection in L2 picture descriptions

Figure 6.4 shows the median frequencies of endpoints selected for the expression of motion events in written picture descriptions by L2 learners and native speakers of English.

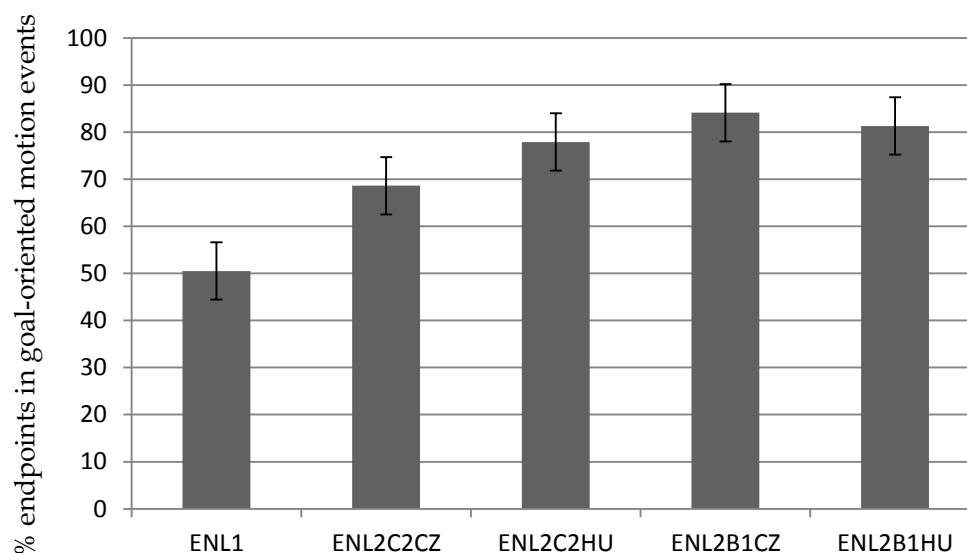


Figure 6.4 Median percentual values of endpoint frequencies in GMEs for written picture descriptions in learner groups and in the ENL1 group

Results of ANOVAs point to a statistically significant difference between the number of endpoints specified in L1 English vs. advanced L2 English [$F(2,42)=3.30, p=.047$]. Tukey post hoc comparisons showed that the Hungarian advanced learners ($M=77.9, SD=25.1$) significantly differed ($p=.039$) from English L1 regarding reference to endpoints. In parallel with the Czech L1 production, no statistical significance was found for the difference between the Czech advanced learners ($M=68.6, SD=25.7$) and the English natives.

As for written descriptions of the basic learners, the frequencies of endpoints in both BV groups resembled corresponding L1s and they were significantly higher than in the target language [$F(2,42) = 5.86, p=.007$]. Both the Czech basic learners ($M = 84.11, SD = 2.04$) and Hungarian basic learners ($M = 81.3, SD = 25.2$) typically encoded more endpoints in GMEs than the English natives ($p=.017, p=.020$ respectively). Quantitatively, neither of the basic learner groups diverged from the patterns in the corresponding L1 groups.

6.3.3 *Relations between selection and segmentation*

Tests of the putative interdependence between segmentation and selection in picture descriptions produced results in support of the hypothesis that these two message planning processes are not inevitably symbiotic. For the three L1s, no significant correlation was found in a bivariate Pearson test for the amount of GMEs used to segment the picture story and the frequency of selected endpoints in these segments [$r(45)=-.15, p=.36$]. Along with the findings in task one, this result indicates that event segmentation and event component selection constitute two separate layers of message planning that require discrete analyses.

Table 6.2 Pearson correlations between the median number of GMEs and the expressed endpoints in written L1 and L2 descriptions

	Mean number of GME	% Endpoints per GME	Correlation coefficients
English L1	3.87	50.0	} -.148 (n.s.)
Czech L1	4.20	66.7	
Hungarian L1	4.27	78.1	
English L1	3.87	50.0	} -.265 (n.s.)
EnL2C2Cz	3.33	68.6	
EnL2C2Hu	2.67	77.9	
English L1	3.87	50.0	} -.439**
EnL2B1Cz	1.47	84.1	
EnL2B1Hu	2.00	81.3	

Correlation tests assessing the relationship between the same two variables in L2 picture descriptions produced rather different results. Table 6.2 shows that the correlation between segmentation and selection was negative and also does not reach statistical significance in the advanced L2 compared with the TL [$r(45) = -.27$, $p = .10$]. However, for the basic L2 data compared with the TL data there was a highly significant negative correlation [$r(45) = -.44$, $p = .008$]. Resemblant of the result for the basic learner group in task one, the strong negative correlation shows that the amount of GMEs and the frequency of endpoints in basic level descriptions can be inversely proportionate to each other. Overall, the inter-group variation found between the amount of GMEs and the frequency of endpoints supports the claim that segmentation and selection are two autonomous processes that may be related to each other in a number of different ways.

6.3.4 L1 and L2 results from qualitative analyses

The picture story proved to be an effective tool for stimulating verbalisation of goal-oriented motion events in two clearly discernible environments. Qualitative

analyses distinguish (a) control environments; i.e. motion events for which an endpoint is depicted as reached; and (b) critical environments; i.e. motion events for which the endpoints are inferable but not reached in the picture story. Whilst the critical items were predicted to exhibit pronounced crosslinguistic differences with respect to endpoint selection, no contrasts were expected to emerge for the control items. Preferences of native speakers in picture descriptions fully supported these predictions. Examples of how two control items were typically verbalised across L1s are illustrated in 7.

- (7) Examples of GMEs with reached endpoints clearly depicted in the picture story, as typically encoded by English, Czech and Hungarian native speakers

EN: a. *they've all gathered around the table*

b. *they move from the dining room into the living room*

CZ: c. *všichni se sejdou u stolu*

everyone gathers around the table

d. *oslava se přesunuje do obývacího pokoje*

the celebration is moving into the living room

HU: e. *a család az ebédlőasztal köré gyűlik*

the family gathers around the dining table

f. *a társaság átvonult egy másik helységbe*

the company moved into a different room

As for the critical items, the typical difference found across L1s was that English speakers insisted less on including endpoints in their motion event descriptions than the Czech and the Hungarian speakers. While for English natives there was a preference to zoom in on GMEs and omit endpoints, Czech and Hungarian speakers commonly zoomed out to view GMEs holistically and included prospective endpoints. Example 8 illustrates these preferences, using

typical descriptions of a picture that shows a cat walking under a table, possibly to a fallen balloon (see Appendix 2).

- (8) Example of a GMEs for which the endpoint is inferable but not reached in the story, as typically encoded by English, Czech and Hungarian native speakers

EN: *the family pet, a brown cat, is walking around underneath the table*

CZ: *a pod stolem **prochází** kočka **k jednomu z balonků***

and under the table there is a cat walking to one of the balloons

HU: *egy cica is van a szobában, az asztal alatt **épp a lufi felé somfordál***

one cat is in the room too, it is under the table sneaking towards the balloon

Another salient crosslinguistic difference was found for motion events that were used to extend the story beyond what was shown in the pictures. Czech and Hungarian speakers commonly used GMEs with endpoints in projections of possible developments of the story, however, extensions based on assumptions were highly atypical of the English production. There were a number of instances where Czech and Hungarian speakers tended to verbalise information not directly shown in the pictures by means of GMEs including endpoints, as in example 9.

- (9) Examples of motion events used as extensions of the stimulus, expressed by Czech and Hungarian native speakers

CZ: a. *slunce už zapadlo a kamarádi **odešli domů***

the sun has already set and the friends went home

b. *dívka drží v ruce sklenici s limonádou a **kouše do koláče***

a girl is holding a glass with lemonade in her hand and is biting into a cake

HU: c. *már este van, a barátai már **hazamentek***

it is already evening time, his friends have already gone home

d. *a másik narancslét **készül tölteni a pohárba***

the other one is about to pour orange juice into the glass

Qualitative observations concerning endpoint selection in advanced L2 data show that, overall, learners' GME construal techniques strongly resemble those typical of the corresponding L1s and digress from the target in at least two ways. Firstly, Czech as well as Hungarian advanced learners regularly specify endpoints for scenes where no goal is reached, instead of adhering to the English pattern of omitting endpoints in such cases (e.g. ENL1: *his parents come in with a baby*; ENL2C2CZ: *parents with a baby are approaching the table*; ENL2C2HU: *their parents and their newborn baby are approaching the table*). Secondly, advanced learners from both groups also verbalise GMEs with endpoints that are related to the pictures yet not directly shown, as in example 10. These response strategies are evidently modelled on L1 information selection patterns. Maintenance of L1 principles for information selection is argued to manifest the influence of habitual preferences for event construal in Czech and Hungarian, which reflect contrasts in the degrees of grammaticalisation of ongoingness marking.

- (10) Examples of motion events used as extensions of the stimulus, expressed by Czech and Hungarian advanced learners of English

CZ: a. *eventually it was getting late and the friends **had to go home***

b. *there is a cat under the table and balloons **fly everywhere***

HU: c. *the content of the box has been **put together into a drumset***

d. *there is a family around a dining table and they **are tucking into a birthday cake***

Overinformative endpoint specification peaked in basic learner descriptions (example 11). Although the average degree of segmenting the input into motion events was relatively low at this level most probably due to restricted L2 knowledge, persistence on selecting endpoints per GMEs was the highest of all groups. In terms of contexts, endpoint selection rates were high for scenes with

no reached goals (e.g. ENL2B1CZ: *the friends **bring** a big packet **to the boy***; ENL2B1HU: *at six o'clock the parents **give to the boy** a birthday gift*) as well as for motion events representing extensions directly related to the scenes depicted.

- (11) Examples of motion events used as extensions of the stimulus, expressed by Czech and Hungarian basic learners of English

CZ: a. *he took a chair, **put her to the drum** and he started to play*

b. *the furniture **moves from one side to the other one** in the house*

HU: c. *after cake the middle children **push** an enormous box **to the oldest brother***

d. *when John's friends **was gone home**, he started playing in his new drums*

6.4 Discussion

Can clearly diverse endpoint selection strategies be explained as stylistic preferences associated with sociocultural varieties? Or are contrasts in encoding motion events attributable to structural differences between language systems? And why do learners continue to rely on source language selection patterns even if they do not facilitate but often complicate target language production by adding unnecessary information? Supported by production data from L1 and L2 speakers, it is claimed that (a) endpoint selection contrasts arise as a result of holistic vs. phasal perspectivation which are directly linked to structural properties of individual linguistic systems; and (b) even at advanced stages of L2, attempts to employ selection patterns from the learners' L1 signal that conceptualisation patterns of the source language are extremely resistant to reorganisation. This subchapter discusses each of these ideas in more detail together with the related findings.

6.4.1 *Holistic vs. phasal event perspectivation and endpoints in L1s*

Endpoint selection patterns across L1s were predicted to differ in correspondence with the availability and regularity of grammatical aspect in terms of ongoingness marking. The results from the two tasks proved this prediction correct. Speakers of languages with a less regular and absent grammatical marker for ongoingness (Czech and Hungarian respectively) showed a stronger preference for holistic event perspectivation exhibited by a high frequency of endpoints selected in goal-oriented motion events, regardless if endpoints were based on evidence or inference. In contrast, speakers of a language with a more regular aspectual system with respect to marking ongoingness (English) preferred phasal event perspectivation, typical of selecting endpoints only if these were presented as reached in the stimulus. This difference can be explained as an impact of language-specific aspectual properties on event component selection. In Hungarian, the lack of grammatical means to draw attention to ongoing event phases might induce speakers' increased focus on endpoints typical for holistic event perspectivation. Although Hungarian provides lexical means to express ongoing phases, these are not obligatory and thus lack the level of regularity found in the English grammar. In Czech, frequent selection of endpoints can also be attributed to irregularity in the marking of ongoing event phases. The possibility of expressing ongoingness by means of perfective as well as imperfective forms in the present tense blurs the systematicity offered by more clear-cut language systems, such as English, which offer a one-to-one form-function mapping for this purpose. Since Czech speakers are not directly sensitised to concentrate on individual phases using a single salient grammatical form, they might naturally incline to holistic event viewing. A strong bias towards

the same perspectivation frame by speakers of such unrelated languages as Hungarian and Czech shows that contrasts in endpoint selection principles are not a phenomenon linked to sociocultural varieties but they emerge as an effect of a shared structural feature, i.e. irregular ongoing phase marking. By contrast, phasal marking in the English grammar is perceptually so prominent that it supports a specific schematic framework for event perspectivation characterised by a zoomed in view on motion events and by omission of endpoints if these are not integral to the event phase currently reported.

Returning to the issue of the relationship between selection and segmentation, the results provided crosslinguistic evidence in favour of the view that each macro process contributes to message planning independently. Observations in the present work point to the particular importance of treating macroplanning processes as separate autonomous layers. One might surmise that if holistic perspectivation typically induces higher endpoint frequencies and lower event granularity than phasal perspectivation, a correlation should emerge for selection and segmentation of identical events between language groups that clearly differ in perspectivation preferences. In fact, as the relevant tests showed, this is not the case. Therefore, the ways in which speakers segment events and in which they select information components within individual segments are two separate phenomena and for related research it is important to consider the plurality of their possible interactions.

In order to examine sensitivity to recognise holistic vs. phasal perspectivation in discourse, a post-test task was conducted in which native speakers (subjects from the original tasks) had to judge the quality of retellings intentionally produced using a language-incongruent discourse structure. English

speakers assessed the quality of an English retelling produced holistically while Hungarian and Czech speakers commented on retellings in their corresponding L1s produced with a phasal perspective. The most crucial feature of all three texts is that they strictly conform to lexical and grammatical requirements of the target language and restrict incongruence exclusively to perspective taking. Sensitivity to incongruent perspectivation differed across groups and conformed to two main tendencies. On the one hand, Hungarian and Czech speakers found no particular problem with the phasal view and their comments can be summarised as *'this production is accurate but somewhat odd, nevertheless, the film maker could remake the story truthfully based on this material'*. The notion of oddity remained underspecified as neither Czech nor Hungarian respondents were able to pin down what exactly was different between the phasal view and their own production. On the other hand, English speakers also found the holistic production to be *'a suitable base for an accurate reproduction of events in the video'* but they repeatedly added that *'it's a bit strange because there are many assumptions'*. When asked to elaborate what particular assumptions they find strange and different from their own production (see Appendix 4 for the exact post-test questions), English natives typically mentioned goal-oriented motion events with inferred endpoints. In sum, results from the post-test show differences in the perceptual saliency of language-incongruent perspectivation, and suggest that for speakers used to viewing events phasally it is easier to detect a switch to a holistic perspective than it is vice versa. As for related SLA research, the relative ease of detecting a change from phasal to holistic event viewing could have helped the Spanish learners in successfully acquiring the Swedish event construal pattern (Bylund 2011b).

6.4.2 *Endpoint selection principles in L2 discourse*

Contrary to expectations, both Czech and Hungarian advanced L2 learners managed to adjust the frequency of endpoints for goal-oriented events in film retellings to match those in the target language. Why should persistent transfer of source language patterns in advanced L2 appear only for one macroplanning process (segmentation) and not for the other (selection)? What might be the reason for such disparity in results? On close inspection, interpreting quantitative results as evidence for a successful adjustment of source language selection principles to those of the L2 turns out as misconceived. Qualitative analyses showed that reorganisation of selection principles is limited to the quantitative level since advanced learners continue to distribute endpoints in progressive and inchoative structures, digressing from the TL selection pattern. In other words, advanced learners select fewer endpoints than their corresponding L1 groups but they still combine endpoints with phasally marked GMEs. This technique is highly atypical for the TL. Further support for insufficient approximation to target-like selection principles comes from picture descriptions, where advanced learners tended to specify unreached endpoints in an L1-like fashion, both qualitatively and quantitatively.

These findings raise the question of whether reliance on a holistic pattern in different L2 groups represents a shared underlying process. One explanation is that advanced learners' conceptual event representation conforms to their source language, it is extremely difficult to reorganise in favour of the target system and only very few manage (Hendriks *et al.* 2008). Another alternative explanation is that advanced learners' L1 event construal preferences are deeply entrenched (Ellis 2002) but the conceptual system itself is reorganisable iff L2 exposure starts

early, i.e. before puberty (Athanasopoulos & Kasai 2008, Boroditsky *et al.* 2003, Pavlenko 2003). Shared reliance on holistic event perspectivation by Hungarian and Czech advanced learners with proficient knowledge of L2 structures, and the relatively low mean age of onset of learning English 8.4 years (range 4-13) and 8.8 years (range 4-14) respectively, favour the view that event conceptualisation patterns of the learners' L1 are too deeply entrenched and immensely resistant to change. Nevertheless, the observation that both advanced groups managed to approximate to target-like endpoint frequencies in their film retellings points to the fact that L1 event construal patterns are partly reorganisable and some changes do indeed occur. Since no pronounced between-group differences emerged when comparing advanced learners vs. corresponding L1 natives, it is plausible that partial reorganisation in both advanced L2 groups is attributable to the formal transparency and perceptual saliency of the English phasal perspective marking. This claim remains tentative. Further research embracing a variety of language combinations that manifest perspectivation contrasts to different degrees will be helpful for a closer examination of the role of perceptual saliency in conceptual reorganisation (e.g. via sensitive grammaticality judgement tasks).

From a developmental viewpoint, basic learners provide a valuable insight into how phasal marking combines with information selection in the earlier stages of SLA. Interchangeable use of V+ing and bare verb forms suggests that basic level learners have yet to acquire formal competence and to recognise that phasal marking in TL aligns with a zoomed-in view and less intensive focus on endpoints. Framed within the thinking-for-speaking paradigm, high L1-like frequency of endpoints in BV production can be linked to the impact of

typological properties of the source language as well as to the lack of structural means to build an adequate schematic framework for phasal perspectivation.

6.4.3 *Endpoint selection and task type*

With respect to the stability of effects, comparable endpoint selection contrasts were detected across modalities (speech and writing) and in two different task types. While change of modality brought about only minute between-group variation in L1 endpoint selection, task type was shown to have some quantitative impact. Endpoint frequencies in Czech film retellings differed significantly from those in the English retellings in a predictable way, however, picture descriptions did not entirely replicate this finding. The discrepancy in endpoint encoding contrasts between Czech and English cannot be attributed to promptings from the experimenter but emerged in spontaneous generation of verbal messages. Although there was an emerging trend for the Czech descriptions to be richer in endpoints than their English equivalents, to fully confirm the impact of typological properties on the information selection process across task types requires stronger evidence. Adding qualitative analyses helped to determine the role and weight of grammatical aspect in endpoint selection. Response strategies in Czech picture descriptions ranged across a wide variety of constructions and strongly resembled Hungarian retellings in terms of endpoint specification based on inference. The English descriptions, by contrast, showed high systematicity in combining endpoint-denoting motion events with non-progressive constructions and in strictly selecting endpoints based on evidence. These findings emphasise that the stability and persistence of the underlying influence of grammatical aspect on event component selection holds across task types.

6.5 Conclusion

The present chapter compared endpoint selection patterns across typologically different native speaker groups and also basic and advanced second language learner varieties. Goal-oriented motion events were tested to assess the impact of L1-specific selection principles on the L2 acquisition process. In particular, the role of regularity in the L1 aspectual system for holistic vs. phasal event perspectivation and related selection principles were examined.

Evidence from L1 data supports the prediction that high regularity and transparency of marking ongoingness in English would induce phasal event perspectivation reflected in a weaker emphasis on inferable endpoints in motion events. Results also show that lower regularity in grammatically marking ongoingness in Czech and the absence of a specific grammatical ongoingness marker in Hungarian co-occurs with holistic perspectivation typical for a strong focus on endpoints. With respect to learner production, crosslinguistic influence of L1 selection patterns persisted despite increasing L2 proficiency. Basic as well as advanced learners digressed from endpoint selection patterns of the L2 and inclined to holistic event viewing instead of adopting a phasal perspective. Although advanced learners managed to approximate to target-like endpoint selection in quantitative terms, their (a) distribution of endpoints in progressive and inchoative structures; as well as (b) endpoint specification based on inference, point to the fact that information selection in L2 discourse is strongly influenced by L1-specific principles. Interestingly, the examined typological L1-L2 contrasts resulted in a striking developmental similarity in second language acquisition paths of two unrelated source language groups. Czech and Hungarian learners'

attempts to maintain the selection pattern from L1s was more frequent in both basic level groups and less pronounced, yet still L1-like, in both advanced level groups. Whilst the results linked to basic learners could be explained as over-informativeness characteristic for the early stages of L2 acquisition (to verify the strength of this explanation, a symmetrical design with English basic learners of Czech and Hungarian would be needed), the results from highly advanced learners signal that there is a more general SLA tendency to resist adjusting L1 information selection principles to L2 requirements.

In a broader context, the L1 findings reinforce the relevance of the Thinking for Speaking hypothesis by showing that the grammatical aspectual system may channel speakers' information selection via facilitating a specific perspective taken on events. As regards SLA, the L2 findings underline the importance of L1-specific structural features in acquiring a typologically different second language, and show that component selection principles for motion events are largely imported from the learners' first language irrespective of increasing proficiency.

Chapter 7

Temporal structuring of events in L1 and L2 varieties*

7.1 Introduction

This chapter investigates patterns exhibited in the way native speakers and second language learners at basic and advanced levels structure temporal information for the expression of events in context. As in previous chapters, the thinking-for-speaking approach is imported to examine the impact of the grammatical category of aspect on temporal structuring in L1 as well as L2. Previous research on how the grammaticalisation of aspect influences processes of event structuring (e.g. Bylund 2011; von Stutterheim & Lambert 2005) documents that (a) language-specificity in the principles of organising temporal information correlates with typological features for ongoingness marking in the aspectual system of a given L1; and that (b) L1 principles permeate L2 production even in advanced learner varieties.

7.1.1 Temporal information structuring contrasts in first languages

In earlier studies on temporal information structuring in first languages, native speakers' responses were commonly found to conform to two main tendencies.

* Those ideas within this chapter which relate to temporal structuring across L1s were published in Vanek, N. (2012). Language-specific perspectives in reference to time in the discourse of Czech, English and Hungarian speakers. In L. Filipovic & K. M. Jaszczołt (eds) *Space and Time in Languages and Cultures 1: Linguistic Diversity*, 135-156. Amsterdam: John Benjamins. Human Cognitive Processing Series 36.

These tendencies surfaced in the techniques used by speakers to relate topic time to situation time. They are hence known as topic time management techniques (von Stutterheim & Lambert 2005). In their film retellings, English, Arabic and Spanish speakers inclined to the technique of topic time maintenance (i.e. deictic anchoring), illustrated in example (1).

- (1) Example of topic time maintenance
- a. *the mother is unwrapping the cake*
 - b. *she is putting it on the table*
 - c. *and she is decorating it with chocolate icing*

Topic time maintenance is an event linking technique where TT gets ‘pegged’ to the time of utterance (Example 1). The temporal anchor for a given TT is the deictic ‘now’ of the event. Event construal characterised by deictic referential anchoring is typically marked in discourse via phasal segmentation, e.g. by means of inchoative structures as shown in (1a), in combination with imperfective forms signalling ongoingness, as in (1b) and (1c). Endpoints tend to be omitted and explicit linkage of temporal relations between propositions is infrequent. Consequently, the listener has to rely to a great extent on contextual cues and general knowledge to decipher temporal relations between individual TSits.

The second main tendency in structuring temporal information is topic time shifting (i.e. anaphoric anchoring), as shown in example (2). It is an event construal technique dominantly employed in film retellings by German and Swedish speakers (e.g. Bylund 2011b; Carroll and von Stutterheim 2003; von Stutterheim and Lambert 2005).

- (2) Example of topic time shifting
- a. *then the mother unwraps the cake*
 - b. *and after that she puts it on the table*
 - c. *and then she decorates it*

Characteristic features of this technique are holistic event construal (as in propositions 2a, 2b and 2c) and explicit specification of temporal relations between TT and TSit of the preceding event. In other words, the TT of a given event is located in the posttime of the preceding TSit interval by means of temporal shifters (i.e. anaphoric temporal markers such as *then, after that, whereupon*). In contrast with the TT maintenance technique, TT shifting typically entails intrinsic anchoring, i.e. the temporal anchor for a given TT is the preceding TSit.

Findings from previous research on temporal structuring signal an important role for the language-specific grammatical category of aspect in event conceptualisation. Consensus was reached in claiming (a) that languages with no specific grammatical marker for ongoingness direct their speakers to view events holistically and hence they employ topic time shift as the preferred event linking technique; and also (b) that languages marking ongoingness grammatically sensitise their speakers to ongoing phases more, resulting in a tendency to maintain topic time when construing events.

7.1.2 Previous research on temporal structuring in learner varieties

Research on temporal structuring in L2 has brought somewhat more heterogeneous results. In the study of Carroll and von Stutterheim (2003),

advanced German learners of English significantly diverged from English temporal structuring patterns and were found to prefer typically German topic time shifting as an event linking strategy. Further analyses showed that some German learners combined holistic and deictic referential frames, which had no parallel in native English production whatsoever. Evidence for insufficient approximation to target-like event structuring also came from a study by von Stutterheim and Lambert (2005) testing French and German learners with English L2. Although both learner groups were highly native-like in terms of formal knowledge, a number of deviations from the English L1 data occurred with respect to principles of temporal information organisation (learners mixed TADVs expressing punctuality with imperfective structures). At variance with these findings, Spanish speakers with L2 Swedish (Bylund 2011b) were reported to exhibit native-like event structuring in their Swedish discourse. Structuring patterns were examined by measuring the frequency with which speakers linked events by means of anaphoric temporal adverbials (TADVs). Qualitative analyses showed that L2 production was characteristic for a high frequency of anaphoric TADVs (typically co-occurring with topic time shifting in Swedish), which was interpreted as evidence for conceptual reorganisation in L2 speakers at the level of microplanning.

Findings from the surveyed L2 studies converge in supporting the view that grammatical aspectual system in a given L1 plays a crucial role in L2 event conceptualisation. However, no consensus has been reached about the susceptibility to the reorganisation of L1 event conceptualisation patterns in L2, i.e. to what extent are L2 learners able to adjust their thinking-for-speaking

principles from their source language to those in the target language. In one set of studies, recurring presence of L1 patterns in segmentation as well as in structuring in advanced L2 (e.g. Carroll and von Stutterheim 2003; von Stutterheim & Lambert 2005) was interpreted as evidence against a conceptual shift from L1 to L2 principles. These findings favour the idea that L1-specific patterns have influence on both levels of conceptualisation in an L2, i.e. macroplanning (segmentation) and also microplanning (structuring). Different conclusions were drawn in Bylund (2011b), who found that L2 speakers residing 12+ years in TL environment managed to overcome their habitual patterns of L1 event structuring, nevertheless, their segmentation patterns were persistently L1-like. These observations were taken as evidence for partial conceptual reorganisation, limited to the level of microplanning.

In sum, crosslinguistic studies on the role of grammatical aspect in temporal structuring showed that (a) speakers of languages with a grammatical ongoingness marker tend to prefer deictic framing while speakers of languages without a systematic ongoingness marker tend to opt for anaphoric shifts when structuring events in discourse; and that (b) the question whether learners whose L2 differs from their L1 in terms of encoding ongoingness stay fixed in event structuring patterns typical of their L1 or they manage to overcome their habitual L1 structuring patterns remains open.

This chapter aims to contribute to the debate on conceptual reorganisation in L2 learners. Framed within the grammatical aspect approach, one of the main objectives is to assess the role of language distance in learners' persistence on source language structuring principles, namely whether the degree of

susceptibility to persist with L1 structuring principles in L2 changes as a function of increasing L1-L2 distance. Additional to examining how language distance affects L2 event structuring, are (a) to verify whether language-specificity in temporal structuring is grammatically conditioned; (b) to test whether thinking-for-speaking effects are task- and modality-specific or have comparable impact in spoken vs. written mode and different task types; and (c) to see whether (in)sensitivity to target-like event construal patterns in L2 on the micro-level parallels that on the macro-level (chapters 5 and 6).

Since consensus about the susceptibility to the reorganisation of L1 event structuring patterns in L2 is still absent, identical production tests with more than two learner groups from different L1 aspectual systems can contribute helpful data for resolving this controversy. Another novel feature in this chapter is the attempt to show that event structuring characterised by anaphoric linkage is not linked exclusively to languages lacking grammatical aspect. Production data from speakers of Czech will be used to illustrate that also an aspect-prominent language can guide its speakers to frame events anaphorically. Whether this is an advantage, hindrance or a phenomenon with no impact for Czech learners of English will become clearer in the L2 tests.

7.1.3 Research questions and hypotheses

The main questions (Qs) pursued in this chapter and the related hypotheses (Hs) are:

Q1: Which temporal structuring principles characterise Czech, English and Hungarian native speakers' discourse? Do temporal referential frames typically

chosen by native speakers vary in accordance with the codability of ongoingness in the grammars of these languages? Are structuring differences consistent across modalities and task types?

H1: Armed with the assumption that grammar plays a key role in conceptual organisation (Lucy 1996), structuring preferences of native speakers are expected to vary according to the ease and frequency with which temporal concepts of ongoingness and perfectivity are expressed in a given L1. Crosslinguistic differences in temporal structuring are predicted to be consistent across modalities and task types owing to highly automatised preferences driven by the grammar of a language.

Q2: Does L1-specific thinking for speaking have an impact on L2 event structuring? And if so, do L2 learners employ structuring principles that fit a single temporal referential frame? And is language distance a reliable predictor of the extent of potential digressions from target-like structuring patterns?

H2: In line with the predictions of the adopted theoretical framework (Slobin 1996), speakers of Czech and Hungarian, trained to structure events differently to speakers of English because of differences in the aspectual systems, will not be able to fully reorganise their L1 principles in L2 production. Important differences will surface depending on the degrees of L1-L2 similarity. Based on previous findings which show L2 learners are capable of building language systems of their own by combining L2 structures that deviate from target-like patterns (e.g. Jarvis & Pavlenko 2008; Carroll & von Stutterheim 2003), the L2 learner groups are not expected to remain fixed in principles typical of a single referential frame.

7.2 Task One

The first task was conducted to test whether typological differences in the aspectual systems interact with temporal structuring patterns in first language discourse; and whether basic and advanced second language learners employ target-like structuring principles in their L2 discourse.

7.2.1 Temporal structuring in film retellings in the source languages

In the first step, two one-way between subjects ANOVAs were conducted separately for spoken and written modality to compare (a) the degrees of condensation (CON degrees), and also (b) explicit temporal linkage via time adverbials and temporal connectives (T-marks) in the production of Czech, English and Hungarian speakers. These two factors have been analysed side by side in order to decipher whether frequencies of T-marks and CON degrees correlate.

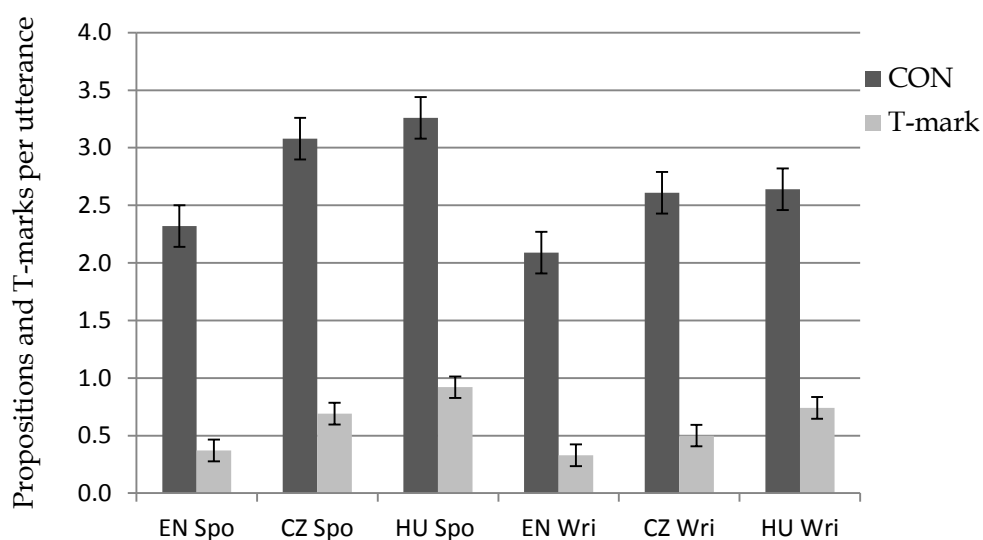


Figure 7.1 Median CON degrees and T-marks per utterance for spoken (Spo) and written (Wri) native speaker film verbalisations

Results illustrated in Figure 7.1 show that there was a significant difference in CON degrees between the film retellings of the three language groups [$F(2,42)=10.51$, $p<.001$]. Post hoc comparisons using the Tukey HSD test indicated that the English production ($M=2.35$, $SD=0.57$) was significantly less condensed than the Czech ($M=3.15$, $SD=0.63$) and the Hungarian production ($M=3.27$, $SD=0.56$), however, no significant difference was found between the latter two. Similarly, written production also exhibited a significant difference in CON degrees [$F(2,42)=12.38$, $p<.001$]. English written discourse ($M=2.09$, $SD=0.18$) was found to be significantly less condensed than the Czech ($M=2.31$, $SD=0.39$) and the Hungarian written discourse ($M=2.64$, $SD=0.40$), while the difference between the latter two was negligible. Thus the results related to condensation suggest that the number of conceptual propositions within utterance units in Hungarian and Czech is likely to be systematically higher than in English for the given type of discourse in both modalities.

Besides cross-linguistic contrasts in CON degrees, Figure 7.1 also depicts the mean frequencies of specifying temporal relations via T-marks per utterance. Significant differences [$F(2,42)=15.81$, $p<.001$] were found in this respect between all three language groups for spoken production, comparing English natives ($M=0.38$, $SD=0.13$) with Czech natives ($M=0.67$, $SD=0.29$) and Hungarian natives ($M=0.91$, $SD=0.30$). Significant differences [$F(2,42)=21.91$, $p<.001$] were also found in written film verbalisations, comparing English natives ($M=0.33$, $SD=0.14$), Czech natives ($M=0.50$, $SD=0.14$) and Hungarian natives ($M=0.74$, $SD=0.22$). This result suggests that for both modalities in the given type of discourse Hungarian L1 speakers tend to mark temporal relations by time

adverbials and temporal connectives almost three times more frequently per utterance than English L1 speakers, while Czech L1 speakers are in between the two. Despite significant crosslinguistic contrasts in T-mark frequencies, their distribution across TADV types and temporal connectives in the three L1s was similar. In the spoken discourse, the vast majority of all T-marks marked position (68.1% in English, 64.1% in Czech, 62.3% in Hungarian), followed by T-marks marking near temporal region (13.7% in English, 11.8% in Czech, 16.0% in Hungarian), and duration (6.5% in English, 11.1% in Czech, 11.4% in Hungarian). A comparable distribution emerged in the written discourse of the three L1 groups, where most T-marks were used to mark position (61.0% in English, 68.3% in Czech, 62.5% in Hungarian), followed by those marking near temporal region (16.1% in English, 14.4% in Czech, 22.3% in Hungarian), and duration (11.5% in English, 9.4% in Czech, 7.7% in Hungarian).

In addition, a Pearson product-moment correlation coefficient was computed to assess the relationship between the CON degrees and the frequencies of T-marks per utterance. There was a positive correlation between the two variables for the retellings [$r(45)=0.65$, $p<.001$] and also for the written texts [$r(45)=.69$, $p<.001$], which means that increases in the number of propositions embedded per utterance were correlated with increases in the frequency of explicit temporal linkage by means of T-marks. This result suggests that temporal linkage of propositions via T-marks (instead of using other means such as causal linkage or simple coordination) tends to occur more frequently when the propositional hierarchy within utterances is more complex. Such crosslinguistic differences in

building a body of events into a hierarchical relational structure surfaced for both speech and writing.

7.2.2 Temporal structuring in L2 film retellings

In the second step, the same factors were examined in advanced L2 data. Results of ANOVAs in Figure 7.2 show that there was a significant difference in CON degrees between the L1 and advanced L2 discourse [$F(2,42)=22.90$, $p<.001$]. Post hoc tests confirmed that the mean scores for CON degrees significantly differed both between ENL1 ($M=2.35$, $SD=0.57$) and ENL2 of Czech learners ($M=3.11$, $SD=0.23$); and also between ENL1 and ENL2 of Hungarian learners ($M=3.41$, $SD=0.46$). This suggests that neither Czech nor Hungarian advanced learners managed to adjust the way they typically condense temporal information in their L1s to L2-like patterns.

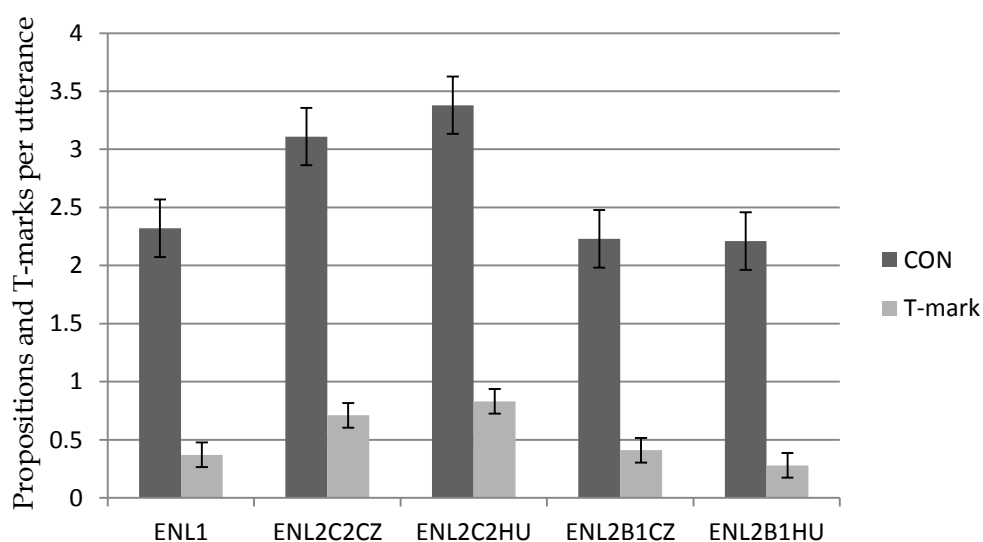


Figure 7.2 Median CON degrees and T-marks per utterance for film retellings in learner groups and the English L1 group

Both advanced learner groups tended to produce more condensed retellings than the English natives. Linkage of propositions via T-marks was also found to differ significantly between ENL1 and ENL2C2s [$F(2,42)=20.33, p<.001$]. Propositions linked with T-marks in ENL2 by Czech advanced learners ($M=0.71, SD=0.16$) and also in ENL2 by Hungarian advanced learners ($M=0.82, SD=0.27$) were significantly more frequent in comparison with ENL1 ($M=0.38, SD=0.13$). Unlike T-mark frequencies, their distribution across TADV types and temporal connectives in advanced learner production did not differ significantly from the target pattern. Most T-marks were used to specify position (67.5% in ENL2C2CZ, 76.6% in ENL2C2HU), followed by those specifying near temporal region (12.3% in ENL2C2CZ, 13.2% in ENL2C2HU), and duration (11.8% in ENL2C2CZ, 5.9% in ENL2C2HU).

CON degrees strongly correlated with the factor of specifying temporal relations via T-marks ($r=0.648, n=45, p<.001$) suggesting that Czech and Hungarian advanced learners structure temporal information similarly in their L2 as in their L1s, i.e. their production of the propositional hierarchies are typically more complex and they tend to use time adverbials and temporal connectives for marking propositional links more frequently in the given task type than English L1 speakers. Remarkably, even though the learners' formal knowledge of the target language was found to be excellent and the syntactic complexity in their production often went beyond that of native speakers, quantitative results indicate that the target principles for structuring temporal information have not been acquired.

As for the basic learner retellings, CON degrees in both BV groups were significantly lower than those of corresponding L1s and corresponding advanced L2s. In more detail, the significance was $p < .001$ in the differences when comparing Czech basic learners ($M=2.23$, $SD=.21$) with Czech L1 ($M=3.15$, $SD=.63$) in and also with Czech advanced learners ($M=3.11$, $SD=.23$); and $p < .001$ in the differences when comparing Hungarian basic learners ($M=2.21$, $SD=.28$) with Hungarian native speakers ($M=3.27$, $SD=.59$) and also with Hungarian advanced learners ($M=2.90$, $SD=.65$).

A similar picture emerged when comparing event linkage by means of T-marks. Significance level $p=.04$ was found for the differences between the frequency of T-marks per utterance in the retellings of Czech basic learners ($M=.41$, $SD=.05$) and Czech native speakers ($M=.67$, $SD=.08$); and $p=.009$ for the differences between Czech basic learners and Czech advanced learners ($M=.72$, $SD=.16$). In the Hungarian data, $p < .001$ was found when comparing T-mark frequency of Hungarian basic learners ($M=.28$, $SD=.17$) with Hungarian L1 ($M=.91$, $SD=.31$); and also when comparing Hungarian basic learners with Hungarian advanced learners ($M=.63$, $SD=.32$). Judging by quantitative results based solely on comparisons of CON degrees and T-marks, basic learners end up looking more like the English natives than advanced learners do. Given that subordination, directly related to CON degrees and also to temporal linkage of clauses via T-marks, at the BV developmental stage is generally rare (Dietrich *et al.* 1995), these results were anticipated.

The distribution of T-marks across TADV types and temporal connectors in BV production did not significantly differ from corresponding L1s or the TL.

Basic learners used most T-marks for the expression of temporal position (81.1% in ENL2B1CZ, 76.5% in ENL2B1HU), followed by T-marks specifying near temporal region (12.6% in ENL2B1CZ, 14.1% in ENL2B1HU), and duration (3.6% in ENL2B1CZ, 5.9% in ENL2B1HU).

7.2.3 *Results from qualitative analyses*

This subsection compares L1 and L2 discourse samples from the film retelling task with regard to temporal structuring preferences, and analyses the employed topic time management techniques together with sets of significant features to which they are connected. In line with previous research on structuring patterns across languages (discussed in 7.1.1), Czech, English, and Hungarian native speakers were found to conform more or less to two main structuring strategies. Czech and Hungarian speakers tended to organise events from what has been generalised as an event-based perspective (basing event linkage on TT shifts). English speakers, by contrast, showed strong preference for an observer-anchored perspective (basing event linkage on TT maintenance). The next step is a comparative demonstration of three discourse samples, one per each studied language. All three L1 samples (examples 1-3) are related to the same part of input and exhibit structuring options typically chosen in each L1 group.

(1) Example of temporal structuring typical of English L1 film retellings

- a. *Mum is getting a birthday cake ready*
- b. *and she's putting icing on it.*
- c. *And she's beginning to write the words 'Happy Birthday'*
- d. *and she is writing,*
- e. *and ehm the boy plays the guitar.*

- f. *And he is really loud,*
- g. *ehm it scares her*
- h. *and she almost goes into shock*
- i. *so she squirts the icing all over the cake.*
- j. *And we can see*
- k. *that she messes up her writing.*

The majority of English speakers¹ inclined to deictic event anchoring. As illustrated in (1), it is characterised by selecting the TT maintenance technique, which links events to the TU, so the temporal anchor for establishing the topic time is the deictic *now* of the event. Since the relations between TSits are left implicit and their temporal boundaries unspecified, interlocutors depend on other methods to decode the precise nature of a given TSit. These methods include focusing on causal links between situations, on phasal segmentation, on inferences from world knowledge and also from the circumstances around events which are often specified. In (1a-d) the TT is linked to the TU and maintained constant, which is a technique characteristically coinciding with an imperfective view on events. A switch to present simple (1e) from present progressive directs attention to information about an instantaneous action, elaborated with a backgrounded evaluative comment in (1f), leading to a further instantaneous event in (1g) and its consequences in (1h). Then causal linkage (in 1i) and its elaboration (in 1k) add information which helps to convey how events progress.

¹ Retellings were not found to conform strictly to one single strategy, combinations and digressions did occur. Nevertheless, since event linkage is based on preferences rather than strict rules, this result was expected. The main focus of the present analysis is the dominant patterns of each examined group.

(2) Example of temporal structuring typical of Hungarian L1 film retellings

- a. *Utána* a fiú felkészül megpendíteni a gitárt,
Then the boy prepares to strum the guitar,
- b. *és közben az anyukája a konyhában díszíti a születésnap tortát,*
 and in the meantime his mother in the kitchen is decorating the birthday cake,
- c. *és ekkor megszólal a gitár,*
 and at this point the guitar starts playing
- d. *és ijedtében elrontja a díszítést a tortán.*
 and she ruins the cake decoration in shock.
- e. *Azután a zajtól lepotyognak az edények ...*
After that the pots fall down due to the noise ...

In contrast to deictic anchoring, Hungarian speakers show preference for anaphoric shifting as a temporal information structuring technique. This technique in the context of a sequence of events, as shown in Example 2, is exhibited by linking the current topic time to the preceding situation time. In order to do so, speakers need to mark topic time shift explicitly, which happens by means of linguistic devices expressing posteriority, most commonly by positional T-marks (e.g. *utána* ‘then’, *azután* ‘afterwards’). Since TT shifts are clearly specified, there is no need for a comprehensive description of event circumstances that would guide the listener through situation progression. Frequent explicit temporal linkage of situations most commonly via T-marks with a variety of functions, especially shifting (e.g. *utána* ‘then’) but also maintenance (*ekkor* ‘at this point’), seems to go hand in hand with a high CON degree. Another characteristic feature for the anaphoric shifting technique is viewing situation sequences from the point of view of a participant in the events or a protagonist, which means that metacommunicative comments representing the observer’s viewpoint are not as frequent as in the English production.

- (3) Example of temporal structuring typical of Czech L1 film retellings
- a. *Tak mezitím maminka odešla do kuchyně,*
Meanwhile the mother went to the kitchen,
 - b. ***pak*** *vyndala narozeninovej dort*
then she took out a birthday cake
 - c. *a s cukrovým pytlíkem šla napsat něco na dort.*
and she was about to write something on the cake with the icing bag.
 - d. ***Pak*** *se teda pekelně soustředila*
Then she was concentrating very much
 - e. *a psala nějakou čokoládovou polevou,*
and was writing with some chocolate icing,
 - f. ***načež*** *se teda ozval hromovej zvuk,*
whereupon a thundering sound awakened,
 - g. *a se mamince rozprskl ten nápis.*
and mum's writing got messed up.

A typical Czech production is shown in (3). Similar to Hungarian, it reflects a number of patterns for organising temporal information characterised by anaphoric shifting: (a) the majority of events are related intrinsically to each other by means of a spectrum of time adverbials and temporal connectives instead of being linked to the origo (i.e. to the time of utterance) in a given communication, (b) TSits provide an anchor point for the TTs that follow them and thus formation of event chains is more frequent than linking each TT to the TU independently, and (c) a holistic view of events prevails since right boundaries of events or event sets necessarily have to be specified in order to serve as anchor points for the next TT. Czech production differs on the whole from the other two in CON degrees, i.e. it is significantly more condensed than the English but has overall less complex propositional hierarchies than the Hungarian.

Detailed examination of the advanced L2 data showed that learners do not simply import structuring principles from their L1s and apply them in the TL. Nor

do they smoothly transit to TL principles as their high formal L2 competence might suggest. One of the most perceptible problems recurring in advanced learner data can be characterised as reference frame blending. In what follows, examples of blending reference frames from each of the advanced learner groups are illustrated.

(4) Example of blending reference frames in L2 English by a Hungarian learner

- a. *the little boy started playing the guitar*
- b. *and it was really loud*
- c. *and the mother was scared*
- d. *and then all the plates were falling off from the shelves*

(5) Example of blending reference frames in L2 English by a Czech learner

- a. *first she spoils the decoration on the cake*
- b. *and then she's losing her temper*
- c. *and she's running into the room*

Examples (4) and (5) show a lack of consistency in structuring temporal information caused by blending reference frames of the source and the target languages. Propositions (4b) and (4c) are backgrounded states linked by adverbial *then* with an imperfective structure in (4d). Similarly, an imperfective structure in (5b) is linked to the preceding proposition with *then*. The incompatibility of such combinations lies in the fact that *then* is an anaphoric shifter forming a left temporal boundary and intrinsically locating a given TT interval into the posttime of the preceding TSit. However, imperfectives generally require the TT to be established deictically (i.e. with no boundaries) or with both the left and the right temporal boundaries specified, otherwise the imperfective structure remains

unanchored (i.e. open on the right end as in (4d) and (5b)). This particular event construal technique can be explained as blending of the Czech and the Hungarian pattern (linking TT to the preceding TSit via temporal shifters) with the English pattern (keeping TT constant with TU). Although perfectly grammatical, blending of this kind does not occur in the native English data whatsoever.

At the BV level, lexical temporal markers such as TADVs are generally attested to be present before learners proceed to a gradual and often slow acquisition of morphological means (Dietrich *et al.* 1995; Giacolone-Ramat 1992; Skiba & Dittmar 1992). Availability of positional TADVs enables learners to effectively establish a temporal frame that is based on anaphoric shifting. Linking TT to the preceding TSit (as shown in 6c, 6e, 6g, 6j) was commonly found in the production of BV learners, strongly resembling the structuring pattern typical of corresponding L1s.

(6) Example of temporal structuring in BV by a Hungarian learner

- a. *First of all he put on sunglasses*
- b. *because its need to the electronic guitar feeling.*
- c. *And after it he get the little piece of plastic*
- d. *which you need to play the guitar.*
- e. *And after he plug in the line of the thing*
- f. *but it doesn't work.*
- g. *And after it he know*
- h. *that the volume is not on the right place*
- i. *so he turn it on and very on to the 'Listen or Die' writing.*
- j. *And after he starting to play the guitar.*

Besides temporal structuring predominantly based on anaphoric shifts, BV learner production in both groups was also found to include some instances of combining typical structuring elements from L1 and L2. Examples (7) and (8) illustrate attempts for combining boundary marking TADVs with imperfective structures, interpreted as blending temporal reference frames.

(7) Example of blending reference frames by a Czech BV learner

- a. *And then when she coming to living room*
- b. *his sleeping grandfather was immediately playing the guitar.*
- c. *And it sound like rock star.*
- d. *And then at the end of his playing he played high tone*
- e. *and then the house was full of ash.*

(8) Example of blending reference frames by a Hungarian BV learner

- a. *And after it he starting to play the guitar.*
- b. *In this time his mother is out in the kitchen*
- c. *she make a birthday cake.*
- d. *She tried write 'Happy Birthday'*
- e. *but immediately the boy started playing in electric guitar so loud*
- f. *that shaked like an earthquake the kitchen.*

In example (7), TT shifts are carried out by means of anaphoric TADVs (7a, 7d, 7e) which clearly signal that the temporal anchor for a given TT is the corresponding preceding TSit. However, the temporal anchor for the TT in (7b), marked with a progressive V+ing structure, is the deictic now of the utterance. The use of *immediately* is not compatible with this particular context (i.e. continual guitar playing) as it expresses a punctual point in time which marks the left temporal boundary of the event represented by [grandfather playing guitar]. A

rather different misuse of the adverb *immediately* is shown in example (8). In this case, the TT is hooked up to the TU with an inchoative structure in (8a), maintained in the following two propositions by means of a time adverbial expressing simultaneity in (8b), further maintained with another inchoative structure signalling an inceptive phase of a simultaneously happening subevent in (8d). However, an attempt to maintain TT with an inchoative structure used to mark another simultaneous subevent in (8e) conflicts with a temporal shift expressed by TADV *immediately*. Curious non-standard combinations such as those in (7) and (8) are read as examples of blending typical elements from L1 and TL.

7.3 Task Two

The second task was conducted with the aim of testing whether task type influences structuring preferences in L1s and in learner varieties. A static picture description task was used to examine whether similar contrasts emerge as in retellings of a dynamic stimulus.

7.3.1 *Temporal structuring in L1 picture descriptions*

Two separate one-way between-subject ANOVAs for written and spoken modality were run to compare CON degrees and the frequencies of propositional links via T-marks in the picture descriptions of Czech, English and Hungarian native speakers. Results in Figure 7.3 show that there was a significant difference between CON degrees in the written picture descriptions of the three language groups [$F(2,42) = 21.99, p < .001$]. Post hoc comparisons using the Tukey HSD test

revealed that the written descriptions of Hungarian natives ($M=3.13$, $SD=.64$) were significantly more condensed than the English ($M=1.88$, $SD=.26$) and the Czech written descriptions ($M=2.32$, $SD=.59$), with no significant difference between the latter two. Similarly, spoken descriptions also exhibited a significant difference in CON degrees [$F(2,42)=15.77$, $p<.001$]. Hungarian spoken descriptions ($M=3.44$, $SD=0.51$) were found to be significantly more condensed than the English ($M=2.62$, $SD=0.30$) and the Czech spoken descriptions ($M=2.92$, $SD=0.38$), with a negligible difference between the latter two groups. These results suggest that the number of conceptual propositions within utterance units in Hungarian tends to be systematically higher than in English and Czech for the given type of discourse in both modalities.

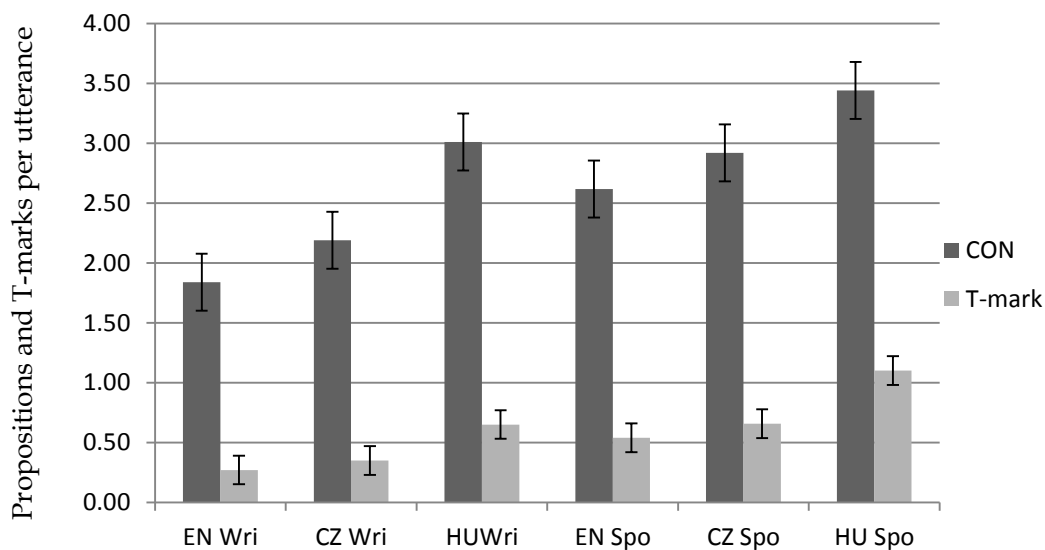


Figure 7.3 Median CON degrees and T-marks per utterance for written (Wri) and spoken (Spo) picture descriptions

Figure 7.3 also depicts the mean frequencies of specifying temporal relations via T-marks per utterance. Significant differences have been found in

this respect for written [$F(2,42)=8.69$, $p=.001$] as well as spoken descriptions [$F(2,42)=28.58$, $p<.001$]. The mean frequency of T-marks in written Hungarian descriptions ($M=0.70$, $SD=0.22$) was significantly higher ($p=.001$) than that in English ($M=0.30$, $SD=0.13$) and also significantly higher ($p=.025$) than that in Czech written descriptions ($M=0.43$, $SD=0.18$), without a significant difference between the latter two groups. A similar picture emerged in the analyses of spoken descriptions. The mean frequency of T-marks in spoken Hungarian descriptions ($M=1.10$, $SD=0.29$) was significantly higher ($p<.001$) than in the English L1 group ($M=0.54$, $SD=0.11$) and also than in the Czech L1 group ($M=0.66$, $SD=0.20$). This result suggests that for both modalities in the given type of discourse Hungarian L1 speakers tend to mark temporal relations by T-marks more frequently per utterance than English L1 and Czech L1 speakers. The distribution of T-marks across TADV types and temporal connectives in the three L1s did not differ significantly. In the written descriptions, most T-marks were used to signal position (59.5% in English, 56.1% in Czech, 54.1% in Hungarian), followed by T-marks specifying duration (21.5% in English, 20.7% in Czech, 18.9% in Hungarian), and temporal region (16.5% in English, 8.5% in Czech, 14.4% in Hungarian). The T-mark distribution was comparable in the spoken L1 descriptions, with most T-marks specifying position (76.9% in English, 66.7% in Czech, 58.9 in Hungarian), followed by T-marks expressing duration (14.0% in English, 12.7% in Czech, 15.0% in Hungarian), and near temporal region (6.6% in English, 9.8% in Czech, 11.7% in Hungarian).

A Pearson product-moment correlation coefficient was computed to assess the relationship between CON degrees and the frequencies of T-marks per

utterance. There was a positive correlation between the two variables in the written [$r(45)=.76$, $p<.001$] and also in the spoken descriptions [$r(45)=.60$, $p<.001$], showing that increases in the number of propositions embedded per utterance were correlated with increases in the frequency of explicit temporal linkage by means of T-marks. This indicates that the preference for temporal linkage of propositions with T-marks (e.g. over causal linkage or simple coordination) tends to occur more frequently in both speech and writing when the propositional hierarchy within utterances is more complex. Unlike in film retellings, however, CON degrees as well as frequencies of T-marks in the Czech L1 picture descriptions were overall more similar to those in the English descriptions rather than those in the Hungarian descriptions. This result, suggesting an effect of task type on structuring patterns in Czech L1 production, is addressed in more detail in the qualitative analyses (subsection 7.3.3).

7.3.2 Temporal structuring in L2 picture descriptions

CON degrees in ENL1 written descriptions were compared with those in advanced L2 written descriptions. No significant differences were found in this respect; neither when comparing CON degrees of advanced Czech learners ($M=2.03$, $SD=0.25$) with English natives; nor between CON degrees of advanced Hungarian learners ($M=2.23$, $SD=0.45$) compared with English natives. The CON degrees of Czech advanced learners were found comparable to those in the corresponding L1 group, however, the CON degrees of Hungarian advanced learners were significantly lower ($p<.001$) than those of the Hungarian natives.

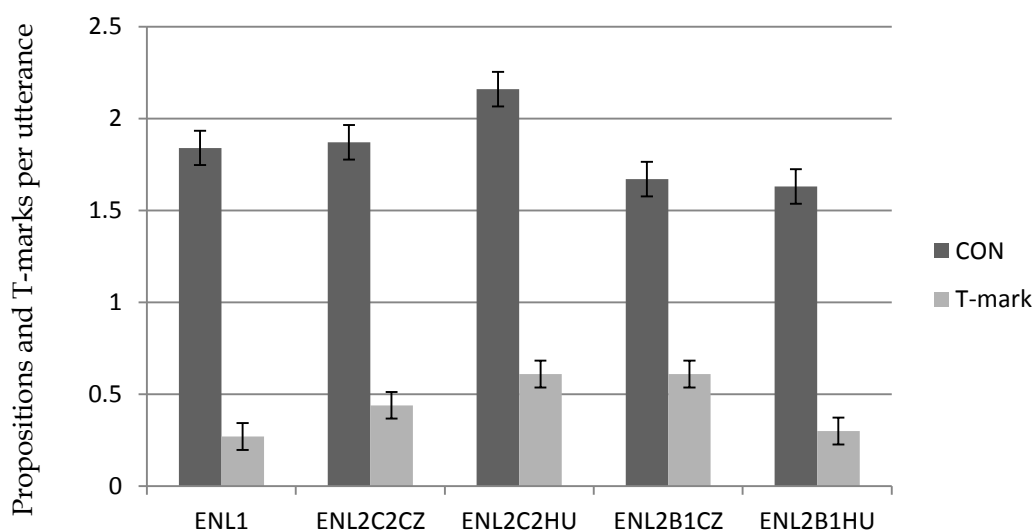


Figure 7.4 Median CON degrees and T-marks per utterance for written picture descriptions in learner groups and the English L1 group

As for linkage of propositions via T-marks, significant differences were found between ENL1 and ENL2C2s [$F(2,42)=14.08$, $p<.001$]. Post hoc tests showed that the linkage of propositions via T-marks in ENL2 by Hungarian advanced learners ($M=0.61$, $SD=0.24$) was significantly more frequent in comparison with English natives, showing that Hungarian learners did not shift towards the target-like structuring pattern as the quantitative tests of CON degrees might suggest. The propositional linkage of Czech advanced learners via T-marks ($M=0.50$, $SD=0.21$) was found comparable to the corresponding L1 and TL. As for the distribution of T-marks across TADV types and temporal connectors, advanced learners used most T-marks to express position (62.9% in ENL2C2CZ, 71.1% in ENL2C2HU). The second most frequent T-marks were used to signal near temporal region in ENL2C2CZ (17.0%) and duration in ENL2C2HU (16.7%), and the third most frequent T-marks expressed duration in ENL2C2CZ (14.6%) and near temporal region in ENL2C2HU (9.6%).

As expected, CON degrees in picture descriptions of basic learners were significantly lower than those of corresponding L1s and the corresponding advanced L2s. More precisely, for CON degrees the significance was $p=.002$ for the differences between Czech basic learners ($M=1.65$, $SD=.19$) and Czech native speakers ($M=2.32$, $SD=.59$); and $p=.026$ for the differences between Czech basic learners and Czech advanced learners ($M=2.03$, $SD=.25$). As for the Hungarian basic learner group, $p<.001$ was found for CON degree differences between Hungarian basic learners ($M=1.68$, $SD=.41$) and Hungarian natives ($M=3.13$, $SD=0.64$); and $p=.022$ for the CON degree differences between Hungarian basic learners and Hungarian advanced learners ($M=2.23$, $SD=.45$).

The mean frequency of T-marks per utterance was significantly lower in the descriptions of Hungarian basic learners ($M=.30$, $SD=.12$) than in Hungarian L1 ($M=.70$, $SD=.21$) and also in comparison with Hungarian advanced learners ($M=.62$, $SD=.14$). For the evaluation of these results it is important to consider the high level of individual variation in the frequency of T-marks at BV level. The same holds true for propositional linkage via T-marks in the Czech basic learner group ($M=.27$, $SD=.19$), which did not differ significantly either from the frequency of T-marks in Czech L1 or from that in the Czech advanced learner group. T-mark distribution across TADV types and temporal connectives in BV descriptions was as follows: 58.1% in ENL2B1CZ and 72.3% in ENL2B1HU marking position, 27.4% in ENL2B1CZ and 14.8% in ENL2B1HU marking duration, 11.3% in ENL2B1CZ and 12.9% in ENL2B1HU marking near temporal region.

7.3.3 L1 and L2 results from qualitative analyses

Despite some heterogeneity in the quantitative results, i.e. between CON degrees and T-mark frequencies of native speakers' film retellings and picture descriptions, the overall structuring preferences and favoured topic time management techniques within the L1 groups were highly resemblant in the two tasks. The English speakers showed a general preference for deictic anchoring while the Hungarian and the Czech speakers tended to opt for anaphoric event linkage. In what follows, three discourse fragments (examples 9-11) representing typical structuring choices of each of the L1 groups are compared.

(9) Example of temporal structuring in English L1 written picture descriptions

- a. The children are looking absolutely astounded*
- b. as the boy jumps up and down*
- c. and the baby is playing with the wrapping paper.*
- d. Later on that evening at eight o'clock he is sat in the living room*
- e. and he is playing his drum set*
- f. with lots of noise emanating from it.*
- g. In the next room the rest of the family are trying to watch television*
- h. but the noise is disturbing them.*

As illustrated in example (9), English native speakers typically employed deictic anchoring to link events in their picture descriptions. The deictic temporal frame typically coincides with TT maintenance, linking events to the TU, and lesser reliance on explicit specification of exact event boundaries. The temporal anchor for each TT in (9a-h) is the deictic now of the given event (with the exception of

9d), which goes hand in hand with an imperfective view. Temporal shifts, as in (9d), are infrequent compared to the Hungarian and the Czech production.

(10) Example of structuring typical of Hungarian L1 written picture descriptions

- a. *Aztán a srác szemben találja magát egy nagy dobozzal.*
Then the boy finds himself facing a big box.
- b. *Többiek már tudják,*
The others already know
- c. *de ő még nem tudja,*
but he doesn't know yet,
- d. *mi van benne.*
what's inside.
- e. *Aztán kibontja*
Then he opens it,
- f. *és az ajándék egy komplett dobfelszerelést rejtett,*
and the present was hiding a complete drum kit,
- g. *amit a srác mindjárt ki is próbál.*
which the boy instantly tries out.
- h. *Eközben a legkisebb gyerek a csomagolás maradványait cincálja.*
In the meantime the smallest child is tearing the wrapping paper into pieces.
- i. *Két óra elteltével a srác már szemmel láthatóan belejött a dolgokba...*
Two hours later, the boy has already clearly improved...

The dominant event linking technique in the Hungarian picture descriptions is anaphoric shifting. Anaphoric shifts, as shown in examples (10a), (10e), (10g), (10i), are carried out by linking the current topic time to the preceding situation time, usually by means of T-marks expressing posteriority (e.g. *aztán* 'then', *mindjárt* 'immediately', *két óra elteltével* 'two hours later'). Besides anaphoric shifters, Hungarian descriptions also exhibit frequent event linkage via T-marks with other functions such as simultaneity (e.g. *eközben* 'in the meantime') and also contrast (*már* 'already', *még* 'yet'). Explicit event linkage in Hungarian descriptions tends to co-occur with relatively high condensation.

Temporal information flow in the Czech written descriptions was also predominantly structured via TT shifting. However, unlike in Hungarian descriptions, Czech speakers did not necessarily use T-marks to signal TT shifts but combined lexical and grammatical means for this purpose. T-marks indicating posteriority (such as *potom* ‘then’ in 11a; *hned* ‘instantly’ in 11g; *po dvou hodinách hry* ‘after two hours of playing’ in 11i) were used to locate a given TT in the posttime of the preceding TSit. Besides time adverbials and temporal connectives, a holistic view necessary for referring to the right boundary of events in order to serve as anchor points for the next TT was also expressed via perfective verb forms (such as *rozbalí* ‘he opens’ in 11b). Remarkably, structures with imperfective verb forms (such as *zjišťuje* ‘he is finding out’ in 11c; *dochází k předávání* ‘the handover is taking place’ in 11a; *snaží se vyzkoušet* ‘he is trying to play’ 11f; *rodičům dochází trpělivost* ‘the parents are running out of patience’ in 11i) were also used with the same function. This was achieved thanks to the structural property of Czech imperfectives in the present tense which, unlike English imperfectives, can refer to completed situations (see 2.2.1). The possibility of also referring to endpoints with imperfective structures in the Czech descriptions can be associated with the lower frequency of T-marks in comparison with the Hungarian descriptions. Given the correlations found between T-mark frequencies and CON degrees across L1s, significantly fewer T-marks in Czech descriptions can be held accountable for generally lower CON degrees compared with the Hungarian descriptions.

(11) Example of event structuring typical of Czech L1 written picture descriptions

- a. *Potom asi okolo šestý hodiny dochází k předávání ohromnýho dárku.*
Then at around six o'clock the handover of a giant present takes place.
- b. *Když ho chlapec rozbalí,*
When the boy opens it,
- c. *tak zjišťuje,*
he realises
- d. *že dostává bicí.*
that he got drums.
- e. *Má z toho velkou radost evidentně*
He is clearly very happy about it
- f. *no a hned se je snaží vyzkoušet.*
and he tries to play them straight away.
- g. *And hned prostě spustí bubnování.*
And he instantly gets going.
- h. *Moc se mu to líbí,*
He enjoys it very much
- i. *ale po dvou hodinách hry evidentně rodičům dochází trpělivost.*
but after two hours of playing the parents obviously run out of patience.

The structure of temporal information in advanced L2 descriptions exhibited interesting similarities to that in advanced L2 film retellings. Descriptions from both advanced L2 groups were found to include instances of blending reference frames of the learners' L1 and L2. Example (12) shows an inconsistent structuring technique by a Czech advanced learner, who linked two imperfective forms in (12c) and (12d) with an anaphoric shifter. As imperfectives in English are commonly anchored deictically (i.e. maintained constant with TU and expressed without temporal boundaries), using an anaphoric shifter *after that* in (12d) disrupts the TU-linked frame and leaves the imperfective structure in (12d) unanchored (i.e. open on the right end). This combination may be grammatically flawless, nevertheless, it represents atypical structuring with no parallel in the native English database.

(12) Example of blending reference frames in advanced Czech learner production

- a. *There are five young children around the table*
- b. *and the mother holding a baby in her arm,*
- c. *standing with the father next to the table.*
- d. *After that, the unwrapping part of the celebration is coming.*
- e. *A huge box is located in the centre of the room ...*

The same combination can also be found in Hungarian advanced learner descriptions. Example (13) is a Hungarian advanced learner's attempt to shift the topic time with the T-mark *after* when linking (13e) with the imperfective structure in (13f). This event construal technique is interpreted as blending of the typical Hungarian structuring pattern (linking TT to the preceding TSit by means of anaphoric shifters) with the typical English pattern (pegging TT to the TU). Blending reference frames clearly diverts from structuring preferences in the TL.

(13) Example of blending reference frames in advanced Hungarian learner production

- a. *They are ready to cut the birthday cake.*
- b. *His mother is bringing in his baby sister to be there at the celebration*
- c. *when he blows the candles*
- d. *and slices the cake.*
- e. *After eating the cake*
- f. *the presents are coming.*
- g. *He is given a very big box ...*

Traces of blending reference frames can be found already in learner production at BV level, i.e. as soon as morphological marking of temporal relations starts to emerge. Example (14c) is a Hungarian basic learner's attempt to combine a typical structuring element from Hungarian L1 (the anaphoric shifter *after*) with

another typical element from English L1 (the imperfective form used to mark ongoing event phases). Interestingly, in (14a) the learner manages to establish a deictic frame, maintains it through (14b), and runs into difficulties to express a temporal shift by choosing the incompatible V+ing form.

(14) Example of blending reference frames in basic Hungarian learner production

- a. *The boy's parents are standing next to the table with their little baby.*
- b. *And there is a brown cat under the table.*
- c. *After the cake, the boy's friends is giving their present to the boy. (sic)*
- d. *He is very curious.*

(15) Example of blending reference frames in basic ENL2 by a Czech learner

- a. *They are celebrating the birthday of the oldest son.*
- b. *After the dinner are coming to the next room.*
- c. *The family try to surprise the oldest son.*
- d. *He is very happy,*
- e. *he is jumping.*
- f. *Then he is starting playing*
- g. *and he plays till night.*

The Czech BV learner production was also found to include some instances of combining typical structuring elements from L1 and L2. Example (15) illustrates a Czech learners attempt to blend shift-signalling T-marks (*after* in 15b and *then* in 15f) with imperfective structures, resulting in disruptions of a TU-linked temporal frame. Although the Czech system may be more versatile in this respect, combining boundary-marking T-marks with ongoing imperfectives is a clearly non-standard way to signal temporal shifts in English discourse.

7.4 Discussion

Systematic comparison of structuring preferences in native speaker and learner discourse showed consistent between-group differences in relation to topic time management. In native speaker discourse, the main contrasts were found between deictic vs. anaphoric anchoring of topic time. As for temporal structuring in basic and advanced learner production, the occurrences of blending L1 topic time management principles with those typical of the L2 signal that the target-like strategy of information structuring with all its intricacies has not been acquired. L1 differences in event structuring choices were found consistent across modalities (written vs. spoken), however, changing the type of discourse (i.e. retelling of a dynamic stimulus vs. description of a static stimulus) was found to have an effect. Each of these main results is discussed in more detail in the following subsections.

7.4.1 *Deictic vs. anaphoric event linkage in L1 discourse*

Do temporal structuring contrasts stem from differences in the linguistic devices that are available for encoding temporality in particular languages? Supported by production data from native speakers of the three typologically dissimilar languages, it is claimed that these contrasts (a) can be accounted for by differences in structural properties of individual linguistic systems, and (b) emerge as a result of minimising ambiguity.

In analysing how speakers are guided by their L1 to follow a particular perspective when they organise temporal information in discourse, the most conspicuous differences appear in the means used for relating topic time to

situation time. Hungarian speakers prefer to link events via anaphoric shifting which locates a given topic time in the post-time of the preceding situation time. This strategy typically induces a frequent use of T-marks, holistic view on events and relatively high CON degrees.

In comparison with speakers of Hungarian, Czech speakers have access to a richer inventory of grammatical means to distinguish perfective and imperfective aspect in their mother tongue. However, unlike English, the Czech language lacks systematicity in the use of imperfective forms. The Czech aspectual system allows imperfective forms to signal not only ongoingness but also completion. On the contrary, high regularity of the English aspectual system to use imperfective forms for marking ongoingness exclusively enables its speakers to establish and maintain temporal coherence by deictic event linkage. This preference typically goes with perspectivation where temporal relations between events are left implicit, CON degrees are relatively low and reference to endpoints is rare.

It seems reasonable to conclude that structural facts such as the cross-linguistic aspectual differences direct the attention of Czech, English, and Hungarian speakers to different details in the processes of event construal. Results from the two tasks support the claim that patterns of information organisation and preferences in event construal hinge on grammaticalised means that a particular language has at its disposal. Following the idea that grammar expresses a restricted set of meanings that make up the basic schematic framework for conceptual organisation within the cognitive domain of language (Slobin 1996), it is also argued that grammatical aspect is a key temporal device for the expression of notions such as ongoingness or progression, and relations such as simultaneity

or consecutiveness, which in a language are emphasised by morphological means. Insufficient morphological means to express these notions and to clarify temporal relations, coupled with potential ambiguity in the interpretation of verbal forms expressing perfectivity vs. imperfectivity, may lead Hungarian speakers to overspecify temporal links in discourse in comparison with English speakers. The reason for doing so is likely to be avoidance of ambiguity of expression, in accordance with the Gricean maxim of manner (1989:26). Even though Czech does provide morphological means to differentiate perfectivity from imperfectivity to a larger extent than Hungarian, in contrast with English it allows the use of perfective forms in here-and-now contexts. This structural property is likely to lead to a significantly higher frequency of perfective forms in Czech discourse when compared with English discourse. The extensive use of perfective forms may guide Czech speakers to habitually focus on the right temporal boundary of events and their post-times (for a related discussion also see Schmiedtová & Flecken 2008; Vanek 2012). This logic can explain why Czech speakers opt for the event-based perspective and use anaphoric shifting as the preferred event linking strategy. Having compared spoken and written verbalisations of a dynamic stimulus, these language-specific structuring features emerged regardless of modality.

Significantly higher CON degrees and higher frequencies of T-marks used for structuring discourse in L1s with less regular aspectual distinctions and the propensity to deictic event linkage in an L1 with a fully grammaticalised concept of ongoingness constitute findings in favour of the grammatical aspect hypothesis (von Stutterheim & Nüse 2003). Findings from Czech L1 highlight that it is not

just the availability but the specific ways of encoding aspect in a given language that need to be considered when looking at the influence of grammar on event conceptualisation (cf. Bylund 2011b). In sum, these findings align well with earlier work on the impact of grammar on conceptual organisation (Slobin 1996; Talmy 1988) and are also consistent with more recent research reporting effects of grammatical aspect on event cognition (Schmiedtová & Flecken 2008; von Stutterheim *et al.* 2009). In order to test the validity of the grammatical aspect hypothesis in even more depth, one of the fruitful avenues for future research could be a synthesis of methods from psycholinguistics and neuroscience (e.g. Dodge & Lakoff 2005).

7.4.2 *Blending temporal reference frames in L2 discourse*

Learners at even advanced L2 level were not found to have a full command of the principles governing topic time management in the target language. While the English natives showed a general preference to link events deictically, Czech and Hungarian L2 learners generally tended to opt for anaphoric event linkage typical of their L1s. Shifting towards target-like structuring patterns was attempted, however, in many cases the characteristic features from L1 and L2 reference frames were incompatibility mixed. The major incompatibility in L2 spoken as well as written production was manifested by joining imperfective structures with anaphoric shifters, interpreted as blending reference frames. Examples of blending found across learner groups, modalities as well as task types support the claims about persisting conformity of L2 learners to L1 patterns in terms of temporal structuring in the target language (von Stutterheim & Lambert, 2005); and

challenge the view of conceptual reorganisation in L2 on the level of microplanning (Bylund 2011b).

Non-native-like combinations of lexical temporal boundary markers with structures expressing ongoingness (i.e. positional time adverbials blended with imperfectives) already surfaced at the level of basic/post-basic varieties. This fact is especially pertinent in BV of Hungarian learners because it suggests that as soon as grammatical aspectual means are acquired, learners do attempt to transcend the structuring possibilities offered by their native language. Advanced learners also make use of imperfective forms compatible with the target-like deictic frame but on the global level of information planning they combine these forms in a way that is distinctly evocative of discourse organisational principles of their L1s. CON degrees in advanced L2 retellings largely mirroring those in corresponding L1s further strengthen this position. These findings support Slobin's (1996) Thinking for Speaking hypothesis and are also consistent with the grammatical aspect approach (von Stutterheim & Nüse 2003) proposing that the aspectual system of the speaker's L1 influences information structuring in L2.

The L2-related hypotheses formulated in this chapter involved two major postulates, namely that L1 effects would be present at the micro level of temporal structuring in L2 production and that differences in condensation and event linkage preferences between L2 and TL would reflect the degree of L1-L2 similarity. Both of these predictions were fully corroborated by the results. L2 event structuring patterns (a) showed strong resemblance to those in respective L1s, and (b) significantly differed from TL patterns, including condensation as well as event linkage via time adverbials and temporal connectives.

Quantitatively, L1-L2 distance proved to be a good indicator of differences between advanced L2 and TL production for temporal structuring. Structuring contrasts between the preferences of the Hungarian advanced learners and the English natives were greater than between the preferences of the Czech advanced learners and the English natives. This result signals that, as far as temporal structuring in L2 is concerned, learner difficulties in acquiring target-like structuring patterns can be attributed to linguistic relativity rather than to cognitive or developmental processes common to all learners regardless of L1.

7.4.3 Temporal structuring and task type

Responses to the film verbalisation task were compared with static picture descriptions in order to check whether a change of task type has an impact on structuring patterns. Native speakers' structuring patterns manifested in condensation and event linking preferences did quantitatively differ across task types. While the CON degrees as well as the frequencies of event linkage via T-marks in the Czech L1 film retellings largely resembled those in Hungarian retellings, the CON degrees and T-mark frequencies in Czech L1 picture descriptions were quantitatively more similar to those in the English descriptions. Despite this discrepancy in quantitative results, suggestive of an effect of task type, close examination of the Czech responses showed that anaphoric shifting was the underlying temporal structuring pattern in fact in both task types. The lower frequency of T-marks in Czech descriptions is attributable to two factors. Unlike Hungarian and English, Czech (a) allows the marking of TT shifts via imperfective forms; and (b) enables the expression of a holistic view on events via perfective forms in here-and-now contexts. These extended possibilities to refer to

endpoints can explain the lesser need to employ TADVs for topic time shifting, which in turn may be responsible for overall lower CON degrees in Czech vs. Hungarian descriptions. Part of the reason why CON degrees are relatively high in the Czech retellings but not in the Czech descriptions may depend on how strongly event flow is dictated by a hierarchical superstructure. Given that the strength of such influence may be greater in narratives than in picture descriptions (Favart & Passerault 2009), significant repercussions are especially likely for languages rich in possibilities to express topic time shift.

7.5 Conclusion

The aim of this chapter was to investigate the acquisition of event structuring patterns in basic and advanced learners from typologically dissimilar L1s. Czech and Hungarian learners' responses to cross-culturally neutral visual stimuli were analysed to test whether their L1 event structuring principles are susceptible to reorganisation in favour of those characteristic for the L2. Native speakers' responses, namely the condensation degrees and topic time management techniques they exhibited, served as a baseline for direct comparisons with L2 production.

Examination of L1 responses has shown that features such as no overt difference between perfective and imperfective events in Hungarian, perfective verbs used for the expression of a here-and-now meaning in Czech, and high regularity in signalling ongoingness with imperfective forms in English appear to be strongly associated with language-specific event structuring principles.

Learner film retellings in all tested groups digressed from topic time management techniques as well as from condensation patterns of the target language. Digressions from target-like patterns are attributable to problems in relating topic time to situation time, an area where the means of the source and the target languages do not overlap. Even advanced learners, who master supra-lexical syntactic constraints of the target language with ease, encountered difficulties in conforming to L2 discourse structuring patterns and tended to fall back on topic time management techniques typical of their L1s. Problems on the level of temporal structuring were clearly manifested by attempts to link ongoing events (characteristic for deictic framing used in TL) with temporal adverbials and connectors marking posteriority (characteristic for anaphoric framing used in the L1s). Consequently, learner production resulted in over-informative reference to event relations with positional time adverbials, atypical for the TL. Over-explicitness via extensive lexical temporal linkage in L2 discourse is claimed (a) to reflect L1-rooted structuring strategies; as well as (b) to serve as a means for learners to ensure unambiguous reference to event relations. The data clearly show that overcoming L1-specific structuring principles remains a formidable task even for very advanced learners.

Taken together, evidence provided by the findings strengthens the Thinking for Speaking hypothesis in two ways. In first language discourse, selective attention to different event features signals that principles of event structuring are closely related to the language-specific category of grammatical aspect. In second language discourse, blending reference frames of learners' L1 and L2 highlights the impact of L1-specific properties on L2 production and points to the high level

of resistance to acquiring novel organisation principles alongside learning a new language.

Chapter 8

Linearization of events in first and second language

8.1 Introduction

Expressing situations in a natural language generally excludes the possibility to communicate multiple information units at the same time. Speech, writing and signing necessarily involve decisions about the order of units for expression, i.e. about linearization. By linearizing units such as propositions in a particular order, the speaker/writer can prominently influence the implicatures the listener/reader will draw (consider for instance *'he took up gambling and got fired'* versus *'he got fired and took up gambling'*). It follows that the higher the situation complexity, the wider the scope for potential ordering configurations. Linearization thus requires careful planning to invoke desired inferences. Planning has to be integral to linearization because if ordering depended exclusively on the sequence of situations in the real world, variations to chronology in event descriptions would hardly occur to the extent observed (e.g. Habel & Tappe 1999).

Verbalisation of event structures, especially of complex events, often involves presenting information units in a sequence that does not mirror the chronological order of their occurrence. Non-sequentiality is a linearization choice alternative to the *principle of natural order* (PNO), i.e. to 'arrange information for expression according to the natural order of events' (Levelt 1989:138). Levelt

suggests that natural order is the unmarked choice for linearization and sees digressions from PNO as artificial orders for producing special effects. However, Levinson (2000) points out that there are situations that naturally necessitate interpretation of a reversed sequence. One such case is when the most salient event from a sequence gets mentioned first as a result of topicalisation (e.g. as in *'the proposal was rejected and it met all the criteria'*). Another case is when a sequential order invokes simultaneous reading (e.g. as in *'the audience applauded and the singer returned on the stage'*). Yet Levinson also agrees that 'although the inference to temporal sequence is defeasible [...] it is nevertheless crosslinguistically the default interpretation of two conjoined past-tensed event descriptions' (2000:123).

One factor with impact on linearization is the mutual knowledge of interlocutors. Mutual knowledge is formed by a set of culture-specific assumptions about the unmarked order of events, and can serve as *scripts* (Levelt 1989:139) for the speaker to invoke particular inferences. Using scripts, i.e. stereotypical ordering built on shared cultural standards about routine actions and familiar repeated sequences (Schank and Abelson 1977), is considered an effective linearization technique (Senft 2010) because it is able to facilitate message generation as well as message decoding.

The second factor that shapes linearization is language-specificity of grammar. It is important to emphasize that linearization represents a conceptual rather than a linguistic process. Nevertheless, following the idea that 'the grammar of a language may put certain boundary conditions on the order in which thought can be expressed, and the order of expression decided on will in turn limit the

choice of appropriate grammatical forms' (Levelt 1981:306), linearization needs to be analysed in close interaction with rules for linguistic formulation. The assumption that the process of generating as well as interpreting verbal messages is shaped by linguistic categories available in the speaker's language system is the basis of the Thinking for Speaking hypothesis (see 2.2.2 for details). This hypothesis served as the starting point for a number of recent studies investigating the relationship between the grammatical category of aspect and the processes involved in event conceptualisation (e.g. Bylund 2011a; Schmiedtová *et al.* 2011). As discussed in previous chapters, these studies provided empirical evidence for the influence of grammatical aspect on a number of event conceptualisation processes. They attested that language-specific principles followed in the processes of event segmentation, selection and temporal structuring correlate with grammatical aspectual properties and specifically with how the concept ongoingness is encoded in a given L1; and that L1 principles for segmentation and selection are largely adhered to even in advanced L2 production.

This study extends the grammatical aspect approach (see 2.2.5) to examine language-specificity in linearization patterns. Firstly, it assesses whether, and if so, how language systems with different degrees of grammaticalisation of aspect in terms of regularity with which ongoingness is marked influence event linearization patterns. Secondly, it tests whether linearization contrasts emerge irrespective of modality (i.e. analogously in speech and writing) in order to verify that particular modalities have no repercussions on linearization patterns (Bardovi-Harlig 1992, Schumann 1987). And thirdly, findings from native speaker data serve as a baseline for comparing linearization preferences in basic

and advanced learner production in order to test learner sensitivity to target-like linearization patterns.

Previous studies testing the grammatical aspect hypothesis jointly present substantial evidence that the way a given L1 encodes aspect in its grammar influences event conceptualisation in L2. What remains to be resolved is the extent to which L2 learners can reorganise L1 event conceptualisation patterns in their L2. Given the lack of consensus regarding partial (Bylund 2011b) versus zero (von Stutterheim & Lambert 2005) susceptibility to reorganising L1 event conceptualisation patterns in L2, this chapter extends the grammatical aspect approach to examine the microplanning process of linearization in L2. An original feature of this approach is testing L2 learners' ability to adjust L1 thinking-for-speaking principles in L2 by examining two microplanning processes (i.e. linearization and structuring/condensation) side by side. This novel approach can contribute to the resonant discussion on conceptual reorganisation in L2 speakers and also shed more light on the intricate connection between language structure and conceptualisation. Alongside mutual knowledge and language-specific grammatical properties, the third factor that influences linearization is processing load. Related crosslinguistic investigations are outlined in the following section.

8.1.1 Examining linearization in L1 production and comprehension

The most plausible reason why chronological order is the default interpretation is its ease of processing. Evidence comes from brain imaging as well as child L1 acquisition studies. For example, Habets *et al.* (2008) measured whether event related potentials (ERPs) preceding sentence production in adult German L1

speakers are sensitive to variations in linearization. Participants in this study verbalised picture sequences based on colour cues that directed them to generate event descriptions using sentences with chronological vs. non-chronological order (e.g. *'After I read a book I sat down on the couch'* vs. *'Before I sat down on the couch I read the book'*). Their speech planning times before articulation were compared and the authors reported that building non-chronological order constructions was more demanding than building chronological ones as it required longer processing time for updating the relevant concepts in working memory.

Findings from research on linearization in early L1 acquisition also support the idea that chronological order is cognitively less demanding. Young children (aged 2-5 years) find it easier to comprehend linguistic constructions where the order of mention mirrors the order of occurrence (Stevenson & Pollitt 1987) and also easier to produce (Clark 1971) than constructions where chronological order is not preserved.

8.1.2 Previous research on event ordering in L2 learner production

Mentioning events in the order which parallels the order of occurrence is attested as the first device for temporal linearization in tutored (Bardovi-Harlig 1992) and also in untutored learner varieties (Klein 1984, Schumann 1987, von Stutterheim & Klein 1987). In order to approximate to target-like temporal language, however, learners need more than just moving forward in time, they need to be able to express backward reference too. At the pragmatic (pre-BV) stage learners heavily rely on chronological order and often fail to sufficiently mark digressions in a

communicatively successful way, as shown in a self-repair example (1a,b) (von Stutterheim & Klein 1987:198-199).

(1) Example of linearization and self-repair from a Turkish learner of L2 German

- a. *diese Kinder 3 Jahre komm immer deutsche Schule gehen*
türkische Schule gehen englische nicht verstehen
 these children 3 year come always German school
 go Turkish school go English not understand
- b. [self repair] *7Jahre Türkei Schule gehen und dann Berlin komm*
3 Jahre Schule gehen aber nicht verstehen englische
 7 years Turkey school go and then Berlin come
 3 years school go but not understand English

As learners move on toward the TL level, they figure out that no overt marking of a digression from chronology is a communicative hazard because the interlocutor cannot figure out the intended event order. Digressions from PNO must be signalled explicitly in interlanguage unless they are marked implicitly via lexical items (Klein 1984), and hence emergence of a marker at least partly determines when learners will express non-chronological order constructions (NOCs) (Bardovi-Harlig 2000). To mark temporal relations explicitly, lexical devices appear in the next stage (i.e. BV), most typically in the form of TADVs (Bardovi-Harlig 2000, Schumann 1987). And in the final stage (i.e. post-BV), tense marking gradually becomes a consistent indicator of temporal reference (Bardovi-Harlig 1994b, Dietrich *et al.* 1995).

In order to examine the exact developmental changes in interlanguage that enable learners to successfully digress from the PNO, Bardovi-Harlig (1994a) analysed oral and written narrative retells, interviews, assigned compositions and written daily journals of 16 tutored adult learners of L2 English with various L1 backgrounds (5 Arabic, 6 Japanese, 2 Korean and 3 Spanish). The adopted

approach was concept oriented, which means the expressed concepts and the means used to realise that expression were the focus of enquiry (von Stutterheim & Klein 1987). Bardovi-Harlig (1992) reported that the expression of non-chronological order constructions (also known as *reverse order reports*) was delayed until the learner developed markers to distinguish them from chronological order constructions in the surrounding narrative. The markers of NOCs were found to fall into five categories: (a) single uses of TADVs; (b) contrastive uses of TADVs; (c) relative clauses; (d) complements; and (e) *because*, which emerge in three developmental stages. In stage one, learner production exhibits a high percentage of NOCs marked purely with TADVs, without morphological contrast (e.g. *I went to my apartment after I finished washing* (Bardovi-Harlig 1994a:253)). In the second stage, relative clauses, complements and *because* are used to mark NOCs without a morphological contrast (e.g. *Then the bolice [police] but [put] the girl which stole the bread on the lorry with Charlie* (Bardovi-Harlig 1994a:254)). In terms of information structure, these three devices are characteristic environments for background information (Dry 1983)¹. And in the third stage, learners mark NOCs with morphological contrasts, most commonly via switching between the base form for the more recent event and the simple past for the anterior event (e.g. *In the car, there are many people who did bad things* (Bardovi-Harlig 1994a:256)). Emergence of the morphological stage does not clash with the use of additional overt NOC marking. In fact, 80% of morphologically marked NOCs in the reviewed study also included other markers, mainly TADVs. The ratio between

¹ As an additional point from the information structural perspective, Bardovi Harlig points out that although chronological order is a typical feature for the foreground, it can also occur in the background, particularly in embedded sequences (2000:92).

the appropriate use of past tense morphology and the total number of verbs in past-time context showed that ‘digressions from chronology appear after the tense system has reached moderate stability’ (Bardovi-Harlig 1994a:275). This study made a significant contribution in finding evidence that despite huge inter-learner variability linked to the earliest digressions from chronology², there is a clear correlation of emerging NOC instances with the correct use of simple past tense. It also illuminated that TADVs play an important role for NOC marking also well after the learner’s simple past marking has been successfully acquired.

8.1.3 *Research questions and hypotheses*

The research questions (Qs) investigated in this chapter with the corresponding hypotheses (Hs) are the following:

Q1: Do different degrees of grammaticalisation of aspect, and more specifically of ongoingness marking, in Czech, English and Hungarian influence native speakers’ linearization preferences in discourse? How does condensation interact with linearization preferences in these languages?

H1: In line with the view that language-specific grammatical aspectual properties play a crucial role in event conceptualisation processes, significant crosslinguistic contrasts in linearization patterns are predicted to surface regardless of modality or task type. In particular, the English discourse (characterised by linking TT to TU) is predicted to exhibit significantly fewer NOCs than the Czech and Hungarian discourse (typical for linking TT to the previous corresponding TSit rather than to TU) because it is harder to change the linear presentation of events

² The earliest instances of digressing from chronological order appeared at 2.0 months of L2 exposure in the discourse of two Japanese learners (Bardovi-Harlig 1994a:260)

if they are linked to the TU (as TU can only progress in one direction). And also, the higher the typical level of condensation in a language is, the more increased rate of NOCs marked by relative clauses and complements can be expected.

Q2: If significant contrasts in linearization principles emerge between the source and the target languages, do Czech and Hungarian advanced learners of L2 English adopt target-like patterns or do they remain rooted in (their) L1 principles? What event linearizing principles characterise basic learner varieties?

H2: Based on previous empirical findings showing that advanced L2 learners are largely resistant to conceptual shifts from L1 to L2 principles for event segmentation, selection as well as structuring, L1-specific linearization patterns are hypothesised to dominate in advanced L2 production. As for basic learners, reference to digressions from natural order will be predominantly expressed via lexical means, leaving relative clauses and morphological contrast for later stages of development due to higher morpho-syntactic complexity.

8.1 Task One

The purpose of the first task was to explore whether aspectual differences, namely the differences in encoding ongoingness grammatically, and associated temporal structuring patterns interact with linearization principles within L1s; and whether basic and advanced L2 learners adopt target-like ordering principles in event construal. Chronological order for the film retelling is defined as the order of events as presented in the stimulus (for the relevant coding see section 4.4.4).

Only constructions referring to an event depicted in or inferred from corresponding preceding frames counted as NOCs.

8.2.1 Linearization in film retellings across the source languages

Initially, two one-way between-subject ANOVAs were conducted separately for spoken and written modality to compare the rates of digressions from chronological ordering in the production of Czech, English and Hungarian native speakers. Written and spoken data were analysed side by side in order to examine whether average frequencies of NOCs for the given type of discourse are modality-specific.

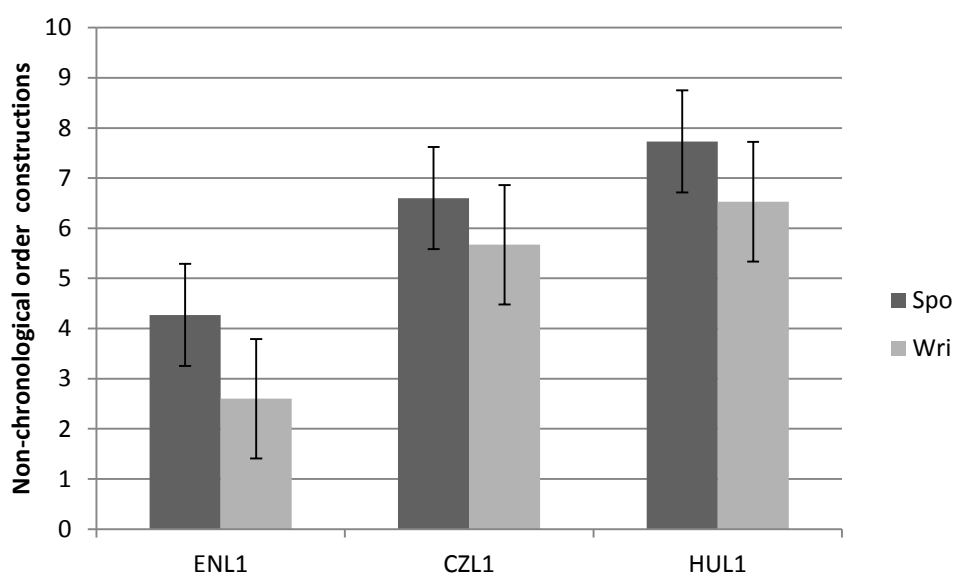


Figure 8.1 Mean scores of NOCs in spoken (Spo) and written (Wri) native speaker film verbalisations

Results illustrated in Figure 8.1 showed a significant difference between the occurrence of NOCs in the spoken production of the three language groups [$F(2, 42)=6.895, p=.003$]. Post hoc comparisons using the Tukey HSD test indicated

that the mean frequency of NOCs in the English group ($M=4.27$, $SD=1.98$) was significantly lower than in the Czech group ($M=6.60$, $SD=1.96$) and in the Hungarian group ($M=7.73$, $SD=3.56$); however, no significant difference was found between the latter two. Similarly, written production also exhibited a significant crosslinguistic difference in the frequencies of NOCs [$F(2,42)=17.397$, $p<.001$]. NOCs in the English written discourse ($M=2.60$, $SD=0.99$) were significantly less frequent than in the Czech ($M=5.67$, $SD=2.64$) and the Hungarian written discourse ($M=6.53$, $SD=1.77$). Thus the results concerning linearization across L1s suggest that the frequency of non-chronological order constructions measured per film retelling/writing in Hungarian and Czech is likely to be systematically higher than in English. Change of modality showed no effect, i.e. crosslinguistic linearization contrasts in the spoken mode largely mirrored those in the written mode. Given these results from native speaker data, there was no reason to expect significant differences in spoken vs. written production of learners. Coupled with reasons of economy, the examination of linearization preferences in learners' film reconstructions was restricted to a single mode, i.e. speaking.

To illustrate how native speakers mark NOCs in order to distinguish them from the surrounding narrative, Figure 8.2 provides an overview of the employed forms and their rates of occurrence. Out of 64 identified NOCs in the English L1 production, 43% ($n=27$) were without a morphological contrast, 44% ($n=12$) of these were marked by means of TADVs. The majority of NOCs 55% ($n=35$) were expressed with a morphological contrast, for which English speakers made use of an additional TADV marker on top of the morphological marker in 26% ($n=9$) of

the cases. The morphological contrasts varied between (a) present simple vs. present perfect (n=28); (b) present simple vs. present progressive (n=5); (c) present progressive vs. past simple (n=1); and (d) present simple vs. past simple (n=1). Even though the pluperfect may seem to be one of the clearest specialised markers of NOCs in English (Bardovi-Harlig 2000:85), no instance of NOC marking with pluperfect was found in the English dataset. Instead, the English speakers strongly preferred the present simple vs. present perfect contrast to serve this function.

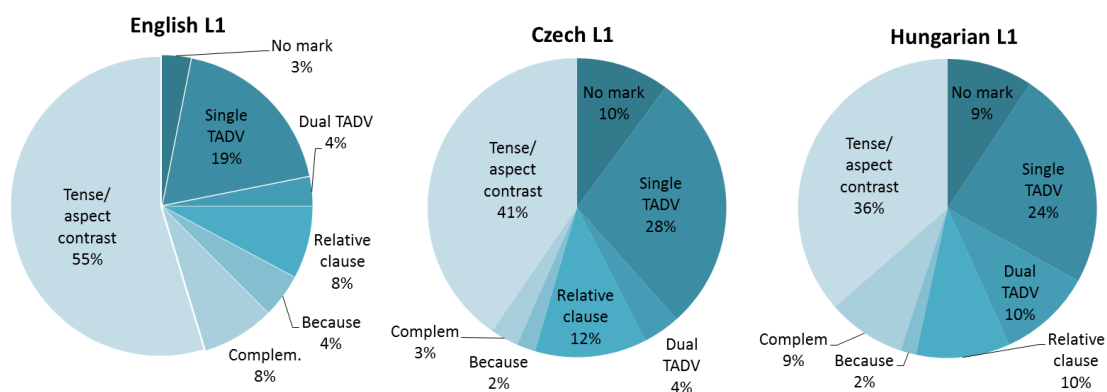


Figure 8.2 Median percentages of forms showing the distribution of NOCs in the film retellings of the three native speaker groups

In the Czech L1 production, there were 99 NOCs in total, 40% (n=40) marked with a morphological contrast, and 49% (n=49) by other means. From the morphologically marked NOCs, double marking with an extra TADV occurred in 43% (n=17) of the cases. The morphological contrasts varied between (a) imperfective present vs. perfective past forms (n=20); (b) imperfective present vs. perfective present (n=12); and (c) imperfective present vs. imperfective past (n=8). Compared with the English group, Czech speakers showed substantially less systematicity in their preferences for a specific morphological NOC marker.

Among the three native speaker groups, Hungarian participants expressed the highest number of NOCs (n=116). 36 % (n=43) were marked morphologically and 55% (n=64) with the use of other devices. The morphologically marked NOCs were expressed as contrastive uses of (a) simplex present vs. simplex past forms (n=15), (b) present simplex vs. past perfective particle verbs (n=14); (c) present perfective particle verbs vs. past simplex (n=8); (d) present imperfective particle verbs vs. present perfective particle verbs (n=4); (e) past imperfective particle verb vs. past perfective particle verb (n=1); and (f) present imperfective particle verb vs. past simplex (n=1). The lack of clear preference for a particular morphological NOC marker was compensated by double marking with an additional TADV, i.e. 56% (n=24) of all morphologically marked NOCs. The prediction that the more complex structural hierarchies will co-occur with increased rates of NOCs was fully corroborated by the results from the three L1 groups (relative clauses and complements together counted 28.6% in ENL1 vs. 37.5 in CZL1 vs. 51.2% in HUL1 from the total of NOC markers per language).

8.2.2 *Linearization in film retellings in learner varieties*

The next step involved the analyses of linearization preferences in L2 data and comparisons with the TL patterns. Results of ANOVAs in Figure 8.3 show that there was a significant difference in the frequencies of NOCs between L1 English and advanced L2 English production [$F(2,42)=10.76$, $p<.001$]. Post hoc tests confirmed that the mean scores for NOCs significantly differed both between ENL1 (M=4.27, SD=1.98) and advanced Czech learners (M=8.00, SD=2.93); and also between ENL1 and advanced Hungarian learners (M=8.20, SD=2.83). This finding suggests that neither the Czech nor the Hungarian advanced learners

managed to modify the linearization principles typically used for event ordering in their L1s to conform to L2-like patterns. Both advanced learner groups tended to digress from PNO more frequently than the English native speakers. This is an interesting phenomenon because, in principle, more frequent digressions from PNO involve higher linguistic complexity. In sum, advanced L2 learners did not follow target-like linearization patterns and their digressions from chronological order quantitatively resembled event ordering preferences typical of the respective source languages.

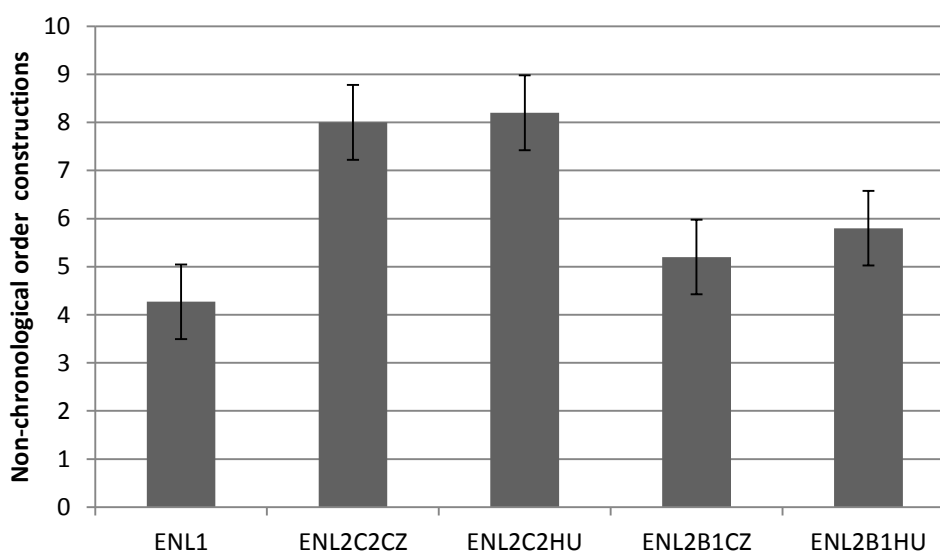


Figure 8.3 Mean scores of NOCs in film retellings of learner groups and the English L1 group

The NOC distribution across forms in the advanced L2 data (Figure 8.4) also showed clear digressions from the TL pattern. There were 120 NOCs in the Czech advanced learner production, out of which 43% (n=52) were marked morphologically and 43% (n=51) by other means. In more than half of all morphologically marked NOCs, i.e. in 55% (n=28), Czech learners also employed an additional TADV marker. The morphological contrasts spread across a number

of forms, including (a) present simple vs. past simple (n=21); (b) present simple vs. present continuous (n=15); (c) past simple vs. past continuous (n=6); (d) present simple vs. present perfect (n=4); (e) present continuous vs. past simple (n=3); (f) past simple vs. pluperfect (n=2); and also (g) present simple vs. pluperfect (n=1). These results show that the Czech advanced learners were far less systematic in the choice of morphological forms for NOC marking than the target native group.

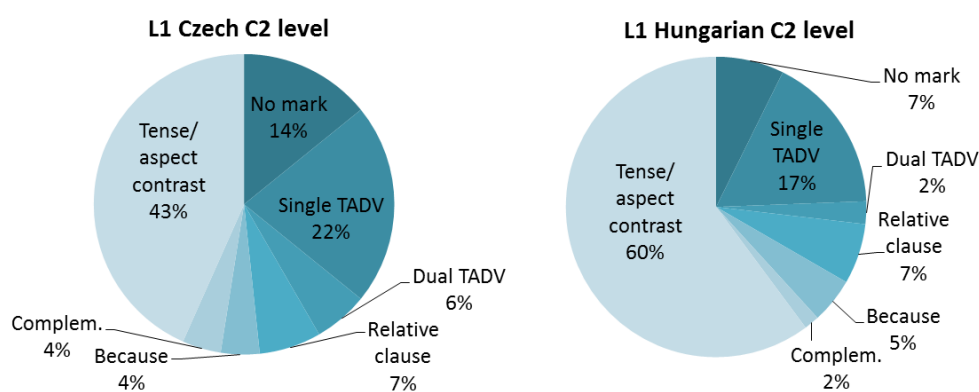


Figure 8.4 Median percentages of forms showing the distribution of NOCs in the film retellings of the two advanced learner groups

In the Hungarian advanced learner group, there were 123 NOCs, 60% (n=74) marked morphologically and 33% (n=40) with the use of other devices. Double marking through morphology plus TADV occurred in 47% (n=35) of the morphologically marked NOCs. The morphologically marked NOCs exhibited a great degree of structural variation, including (a) present simple vs. past simple (n=17); (b) past simple vs. past continuous (n=12); (c) present simple vs. present perfect simple (n=12); (d) present simple vs. present continuous (n=9); (e) present simple vs. past continuous (n=7); (f) present perfect simple vs. past simple (n=6); (g) present continuous vs. past simple (n=5); (h) present simple vs. present perfect

continuous (n=2); (i) present simple vs. pluperfect (n=2); (j) present continuous vs. present perfect continuous (n=1); and (k) past simple vs. pluperfect (n=1). This extent of variation represents a robust diversion from the target pattern.

As for basic level learner production, the frequency of NOCs was found to be between that of corresponding L1s and the TL. Nevertheless, neither of the differences between group mean scores; (a) Czech basic learners (M=5.20, SD=2.11) vs. Czech L1 and English L1, nor (b) Hungarian basic learners (M=5.80, SD=2.54) vs. Hungarian L1 and English L1, were significant. Additional counts revealed that the distinction between interlanguage and primary language is not so much linked to the frequency of NOC use but rather to the distribution of NOCs across linguistic devices. As shown in Figure 8.5, the most conspicuous difference characterising basic level production is the relatively high rate of NOC marking via single TADVs, as well as the frequent occurrence of zero marking. The relatively low rates of NOC marking via tense/aspect contrasts in both basic level groups are attributable to the yet unstable morphological L2 competence of learners.

The Czech basic learners expressed 78 NOCs; as few as 23% (n=18) marked morphologically, 38% (n=30) with TADVs, and 21% (n=16) with other devices. An additional TADV marker was used in 28% (n=5) of the morphologically marked NOCs. Among the morphologically marked NOCs, 89% (n=16) were expressed as a contrast between present simple vs. past simple, and two NOC instances were marked by present simple vs. present continuous forms.

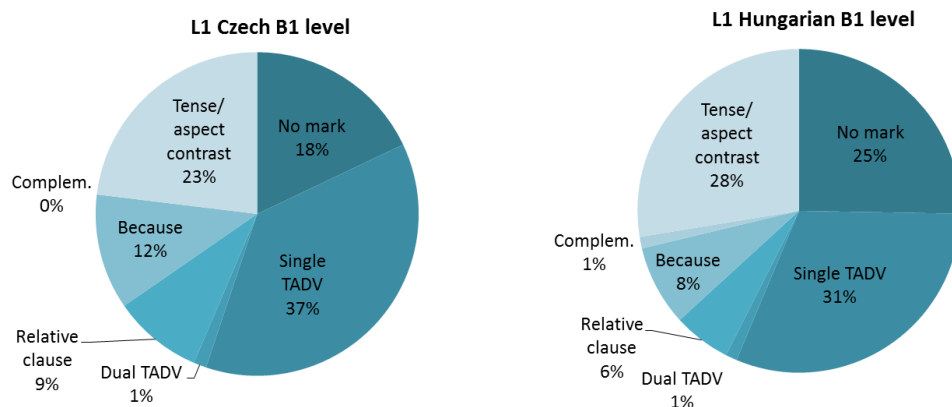


Figure 8.5 Median percentages of forms showing the distribution of NOCs in the film retellings of the two basic level learner groups

The Hungarian basic learners proceeded in a similar way. Their discourse included 87 NOCs; 28% (n=24) marked morphologically, 32% with TADVs (n=28), and 15% (n=13) with other means. The morphologically marked NOCs varied between present simple vs. past simple 66.7% (n=16), present simple vs. present continuous (n=3), and past simple vs. past continuous (n=5). The latter two types express a contrast in aspect rather than tense. Surprisingly, double marking through morphology plus TADV was rare, only one case occurred. The results from both basic learner groups corroborate previous findings that once NOC marking via morphological contrasts starts to emerge, it is most commonly signalled with a contrastive use between simple present and simple past (Bardovi-Harlig 1994a).

In the next step, Pearson correlation coefficients were computed to assess the relationship between the frequencies of NOCs and the degrees of condensation in spoken production. These correlation tests were run in order to check that the processes of linearization and condensation are mutually independent and can

interact with each other in a variety of ways. As shown in Table 8.1, the two variables were found to correlate positively in the L1 data [$r(45)=.42$, $p=.002$] and also in the advanced L2 data compared with TL data [$r(45)=.38$, $p=.005$]. It means that increases in the frequency of NOCs correlated with increases in condensation (i.e. the number of propositions embedded per utterance). These results suggest that digressions from PNO in discourse can occur more frequently when the propositional hierarchy within utterances is more complex. However, this result does not automatically imply causality between high condensation and frequent NOC use.

Table 8.1 Pearson correlation coefficients between condensation degrees and frequencies of digressions from chronological order

	Median PNO digressions	Median condensation	Correlation coefficients
English L1	4.27	2.35	} .419**
Czech L1	6.60	3.15	
Hungarian L1	7.73	3.27	
English L1	4.27	2.35	} .384**
EnL2C2Cz	8.00	3.11	
EnL2C2Hu	8.20	3.38	
English L1	4.27	2.35	} -.020
EnL2B1Cz	5.20	2.23	
EnL2B1Hu	5.80	2.21	

Table 8.1 also shows that the frequency of NOCs in basic level learner data did not correlate with condensation degrees. This result signals that (a) condensation degrees and linearization patterns are not always directly proportional; and (b) digressing from natural order can be easier once complex TL structures have been mastered. It is important to emphasise that condensation should not be viewed as an absolute prerequisite for PNO digressions as non-chronological order

constructions also occur in the form of mono-propositional utterances (e.g. *'The boy opens the present. It was sent by his dad.'*). Supplementary qualitative analyses were conducted to gain a fuller understanding of the nature of non-chronological event linearization in the examined L1s and learner varieties.

8.2.3 Results from qualitative analyses

The following step compares typical Czech, English and Hungarian production, illustrating some of the most conspicuous differences in the preferred ways of linearizing events by native speakers of these languages. All seven discourse fragments (examples 2-8), are retellings of the same visual input. The comparisons are based on the order of events as presented in the movie. Although some events can be happening simultaneously in reality (e.g. *'the grandpa is sleeping in the wheelchair and the grandson is playing with the sound system'*), the movie shows many of them in a sequential order (Appendix 1 provides a map of the exact scene sequences).

- (2) Example of a linearization strategy typical of English L1 retellings (symbol → indicates maintenance of the order of events as shown; symbol = represents simultaneity with the corresponding previous event)
- a. *The boy is on the ground in shock staring at grandad* →
 - b. *who's jamming away on the guitar.* =
 - c. *Then he finishes playing,* →
 - d. *holds the guitar peg up in his hands,* →
 - e. *plays this massive chord,* →
 - f. *and smoke comes out of the windows.* →
 - g. *And everything is just being destroyed.* =

As example (1) demonstrates, the dominant sequencing principle in the English retellings was to follow the order of events as presented. Digressions from chronological order were infrequent. When present, their function was mostly restricted to clarifying background information based on the speaker's inferences rather than on the actual video (e.g. *he ticks off a notebook to say that a parcel has been delivered and drives away*).

- (3) Example of a linearization strategy typical of Czech L1 retellings (symbol → indicates order maintenance; symbol ← signals a digression from the presented order)
- a. *Syn má vytřeštěný výraz,* →
the son stares dumbfounded
 - b. *brýle mu spadli na nos* ←
the glasses slid down on his nose
 - c. *a dívá se přes ně na dědečka,* →
and he's looking through them at the grandpa
 - d. *který se opřel do té kytary,* ←
who strummed that guitar as it gets
 - e. *a užívá si hru,* →
and he's enjoying it
 - f. *jakoby se vrátil do svých mladých let,* ←
as if he had returned to his heyday
 - g. *a hraje jako o život.* →
and he is rocking away

When Czech speakers streamlined ideas to produce a coherent piece of discourse, they resorted to a significantly higher frequency of NOCs than the English speakers. Diversions from chronological order in the Czech retellings were detected to surface most frequently as (a) topicalised propositions (e.g. event 3a is more salient than event 3b and hence mentioned first); (b) non-restrictive relative clauses (as in 3d); and also (c) backgrounded statements with additional

explanatory intent (as in 3f). Overall, the Hungarian production was highly resemblant to the Czech in this respect (e.g. relative clause in 4e).

(4) Example of linearization strategy typical of Hungarian L1 retellings

- (a) *Nem a fiú kezdett itt nagy zenészkedésbe hanem a nagypapa,* →
not the boy but the grandfather started producing music
- (b) *újra fiatalkorát éli,* →
he's reliving his youth
- (c) *és ő nyúlt a gitárhoz.* ←
and it was him who seized the guitar
- (d) *Aztán az anyuka meglepődik,* →
then the mother gets surprised
- (e) *hogy micsoda nagy rocker lélek veszett el rég a nagypapában,* ←
what a great musical talent got lost in grandpa long ago
- (f) *aztán a nagy hangos zeneszóra a ház is kezd összeomlani.* →
then upon the powerful sound even the house starts to collapse

Linearization preferences in advanced learner production examined exclusively via quantitative tests might suggest that advanced learners merely copy L1 principles for sequencing in their L2. Nevertheless, detailed qualitative comparisons revealed occurrence of atypical ordering techniques in both advanced learner groups. One of the most prominent digressions from target-like linearization principles was the learners' construction of multi-propositional non-chronological sequences. Although formally flawless, building propositional hierarchies in combination with non-chronological sequences in a single utterance had no parallel in the L1 data.

(5) Example of sequencing in advanced ENL2 retelling by a Czech learner

- a. *The kid is just in awe* →
- b. *that his grandpa, looking dead all the time,* ←
- c. *now comes back to life* ←
- d. *because he was an old rocker in his days.* ←
- e. *And so actually the kid is surprised himself* →

- f. *at what just happened* ←
- g. *and grandpa just goes for it.* →

Example (5) illustrates that Czech advanced learners have no difficulty in reaching target-like complexity in terms of syntactic linkage of propositions, in fact they often exceed typical TL levels of propositional density per utterance. However, the non-chronological sequence of propositions in (5b-5d) shows a striking departure from the English native speakers' linearization preferences. Serial diversions from natural order within a single utterance also feature in Hungarian advanced learner production, as examples (6b-6d) demonstrate. Such diversions in advanced learner data signal that target-like ordering principles have not been sufficiently adopted.

(6) Example of sequencing in advanced ENL2 retelling by a Hungarian learner

- a. *It's not Timmy who 's playing the guitar but his grandfather,* →
- b. *who was before just sitting in a wheelchair,* ←
- c. *and now he got back to life,* ←
- d. *and started playing the guitar.* ←
- e. *And Timmy is quite surprised* →
- f. *at what his grandpa can do.* →

In comparison with advanced L2 production, basic learner varieties operate with a distinctly more limited repertoire of linguistic means for temporal reference. Linearization is assumed to bridge conceptual choices during the process of ordering ideas with their linguistic translation (e.g. Favart & Passerault 2009). Therefore, limits in linguistic means naturally bring about sequencing adjustments. One of the major adjustments is NOC reduction, illustrated in examples (7) and (8).

(7) Example of sequencing in basic ENL2 retelling by a Czech learner

- a. *So when mum coming to the living room* →
- b. *she see grandfather as play the guitar.* →
- c. *And child sitting on the floor* ←
- d. *and watch the grandfather too.* =
- e. *And the grandfather play very nice* →
- f. *and as he was rocker before.* ←

The Czech learner production in (7) represents the developmental stage (i.e. basic variety) in which reference to time is mainly accomplished by means of lexical verbs in bare forms (7b, 7d, 7e); optionally in V+ing forms (7a, 7c) and emerging temporal adverbials (7a, 7f). As past tense morphology in basic varieties is not yet stabilised (Bardovi-Harlig 1994a, Dietrich *et al.* 1995), it can be one of the main reasons why learners at this stage typically resort to fewer digressions from natural order than L1 Czech speakers or advanced ENL2 Czech learners.

(8) Example of sequencing in basic ENL2 retelling by a Hungarian learner

- a. *The mum begin to shout.* →
- b. *The grandfather stand up from the wheelchair* ←
- c. *and begin playing on guitar* →
- d. *and it is very loud.* =
- e. *And mother is very angry* →
- f. *and the child is only watching the situation.* ←

Hungarian learners of English at the basic level show similar patterns of temporal reference as their Czech peers. Example (8) illustrates occurrence of bare verb forms (8b) and also V+ing forms (8f). In addition, lexical boundary markers, such as *begin* in 8a and 8c, start to emerge. Nevertheless, limited linguistic skills in terms of past tense morphology for signalling digressions from chronology seem

to go hand in hand with a consistently reduced frequency of NOCs in the Hungarian basic learner group, when compared with L1 Hungarian speakers or advanced ENL2 Hungarian learners.

8.3 Task Two

The second task tested potential effects of task type on linearization preferences in L1s and L2 varieties by supplementing narrations of a dynamic stimulus with descriptions of a static stimulus. Chronological order for this task is the order of events as presented in the pictures (see section 4.4.4 for details about relevant coding). Constructions counting as NOCs were strictly limited to references to an event depicted in or inferred from corresponding preceding pictures.

8.3.1 *Linearization in picture descriptions in the source languages*

Two one-way between-subject ANOVAs were conducted for spoken and written modality to compare the rates of digressions from chronological ordering in the picture descriptions of Czech, English and Hungarian native speakers. Average frequencies of NOCs (including NOCs based on the depicted events and also NOCs linked to inferred events) are shown in Figure 8.6.

Differences in the occurrence of NOCs showed statistical significance in the written picture descriptions [$F(2, 42)=7.163, p=.002$]. Post hoc procedures (Tukey HSD) revealed that the mean number of NOCs in the Hungarian group ($M=4.13, SD=2.29$) was significantly higher than in the Czech group ($M=2.33, SD=1.59$) and in the English group ($M=1.80, SD=1.26$), however, no significant difference was found between the latter two.

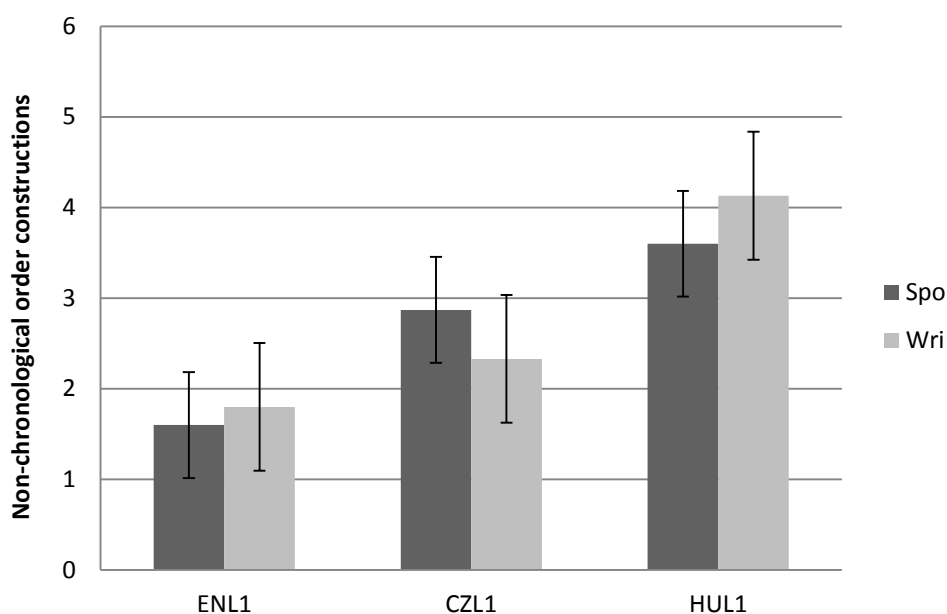


Figure 8.6 Mean scores of NOCs in spoken (Spo) and written (Wri) native speaker picture descriptions

Comparing spoken picture descriptions also exhibited a crosslinguistic difference in the frequencies of NOCs [$F(2,42)=13.18$, $p<.001$]. Significantly fewer digressions from chronology were found in spoken descriptions of the English group ($M=1.60$, $SD=1.18$) than in the Czech group ($M=2.87$, $SD=.99$) and the Hungarian group ($M=3.6$, $SD=1.06$), with no significant difference found between the latter two. These results suggest that the frequency of non-chronological order constructions measured per picture description in Hungarian and Czech (similarly to task one) is likely to be systematically higher than in English for the spoken mode. The result was different in the written mode, where the frequency of digressing from chronology in the Czech production seemed more resemblant of the English pattern rather than of the Hungarian pattern. Supplementary analyses of NOC distribution across forms in written descriptions were conducted to look

beyond frequencies in order to examine the crosslinguistic patterns in the expression of NOCs in more detail (see Figure 8.7).

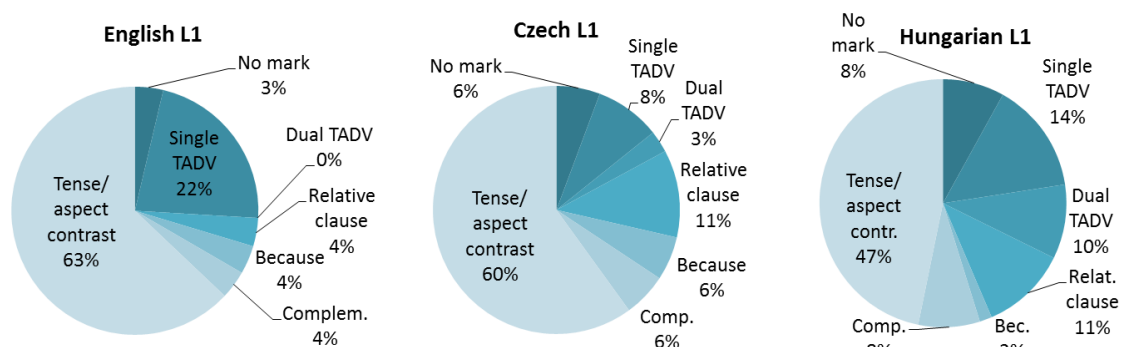


Figure 8.7 Median percentages of forms showing the distribution of NOCs in written picture descriptions of the three native speaker groups

There were 27 NOCs in the English L1 descriptions, 63% (n=17) marked morphologically, and 29% (n=5) out of these had an additional TADV marker (TADV only NOC marking was 22%). Morphological marking exhibited a strong bias towards the contrast between present simple and present perfect (n=16). Only one instance of NOC marking differed, it was expressed as a contrastive use of present continuous vs. pluperfect.

Unlike the English speakers, the Czech group was far less consistent in the choice of morphological forms for NOC marking. Out of the 35 NOCs in total, 60% (n=21) were marked morphologically, and 38% (n=8) out of these had an additional TADV marker. The morphological contrasts varied between (a) imperfective present vs. perfective past forms (n=11); (b) imperfective present vs. perfective present (n=10); and (c) perfective present vs. imperfective past (n=1).

The Hungarian descriptions also exhibited a wider fluctuation in NOC distribution across morphological forms. Out of the 62 NOCs in total, 47% (n=29)

were marked morphologically, and 38% (n=9) out of these had an additional TADV marker. The morphologically marked NOCs were expressed as contrastive uses of (a) simplex present vs. simplex past forms (n=12), (b) present simplex vs. past perfective particle verbs (n=13); and (c) present perfective particle verbs vs. past simplex (n=4).

8.3.2 Linearization in picture descriptions across learner varieties

The following analysis examined linearization preferences in L2 data in comparison with the TL patterns. Results of ANOVAs in Figure 8.8 show differences in the mean frequency of NOCs in written picture descriptions of English L1 and advanced L2 English [$F(2,42)=5.65, p=.007$].

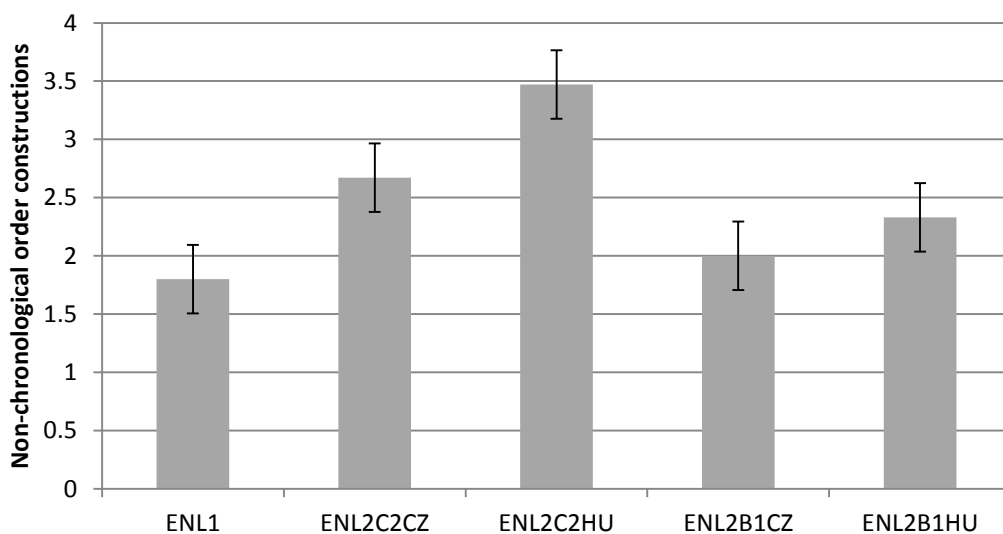


Figure 8.8 Mean scores of NOCs in picture descriptions of learner groups and the English L1 group

Post hoc tests made it clear that the mean scores for NOCs significantly differed ($p=.005$) between English L1 ($M=1.80, SD=1.26$) and Hungarian advanced learners ($M=3.47, SD=1.60$). The difference in the number of NOCs in the Czech advanced learner group ($M=2.67, SD=1.18$) and the English L1 group was not

statistically significant ($p=.2$). These results suggest that the Hungarian advanced learners did not manage to sufficiently modify the linearization frequencies typically used for event ordering in their L1s to conform to L2-like patterns. As for the Czech advanced learners, they also tended to maintain linearization frequencies of their L1s, but these frequencies, unlike in Hungarian L1, were largely compatible with the target English pattern in the given task type.

Whilst frequencies in advanced Czech L2 did not differ significantly from the TL, the Czech learners' NOC distribution across forms (Figure 8.9) digressed from the English pattern.

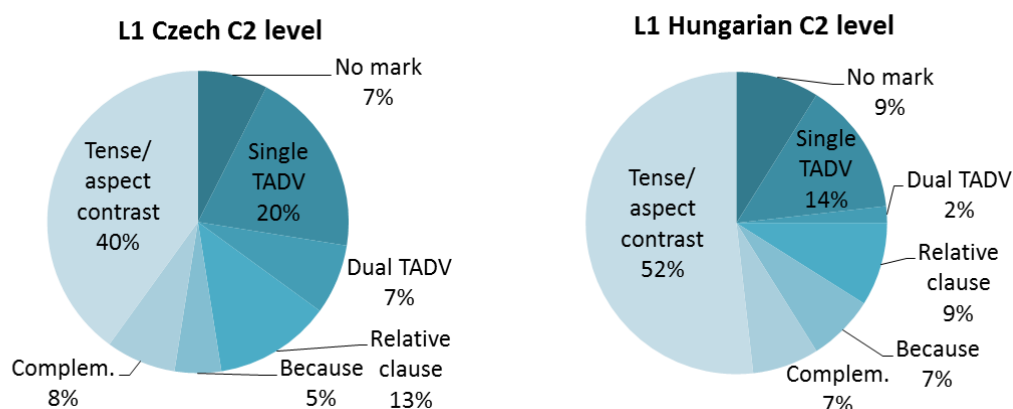


Figure 8.9 Median percentages of forms showing the distribution of NOCs in written picture descriptions of the two advanced learner groups

Out of 40 NOCs in the Czech advanced learner production, 40% ($n=16$) were marked morphologically, and four of these had an additional TADV marker. The morphologically marked NOCs were expressed as contrasts between (a) present simple vs. past simple ($n=7$); (b) present simple vs. present perfect simple ($n=4$); (c) present simple vs. present perfect continuous ($n=1$); (d) present continuous vs.

past simple (n=1); (e) present simple vs. present continuous (n=1); (f) past simple vs. past continuous (n=1); and (g) past simple vs. pluperfect (n=1). Such distribution of NOCs across forms is not consistent with the target-like linearization pattern.

Hungarian advanced learners used 56 NOCs in their picture descriptions, 52% (n=29) with morphological marking and 39% (n=22) without. Double marking through morphology plus TADV occurred in 24% (n=7) of the morphologically marked NOCs. Similarly to task one, the morphologically marked NOCs of Hungarian advanced learners exhibited a great degree of variation, including contrasts between (a) present simple vs. present perfect simple (n=8); (b) present simple vs. past simple (n=7); (c) present simple vs. present perfect continuous (n=4); (d) present simple vs. pluperfect (n=4); (e) past simple vs. pluperfect (n=3); (f) present perfect simple vs. past simple (n=2); and (g) present continuous vs. past simple (n=1). This way of NOC distribution is evidently a long way from matching the target pattern.

Similarly to the results in task one, the frequency of NOCs in basic learners' picture descriptions was found to be between that of corresponding L1s and the TL. Neither the difference between median scores of NOCs in basic Czech learners (M=2.00, SD=1.41) vs. Czech L1 and English L1; nor between basic Hungarian learners (M=2.33, SD=2.13) vs. Hungarian L1 and English L1 were significant. What clearly differed from TL, however, was the NOC distribution across forms (Figure 8.10). Characteristic features of both basic level group descriptions were (a) frequent NOC marking with *because*; and (b) a relatively low rate of NOCs marked with tense/aspect contrasts.

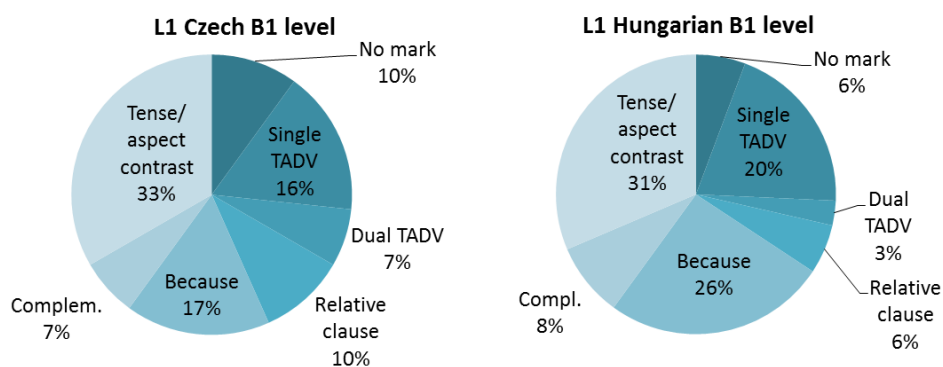


Figure 8.10 Median percentages of forms showing the distribution of NOCs in the written descriptions of the two basic level learner groups

The Czech basic learners expressed 30 NOCs; 33% (n=10) marked morphologically, 17% (n=5) marked with *because*. An additional TADV marker was used only in one case from all morphologically marked NOCs. The morphologically marked NOCs varied between (a) present simple vs. past simple (n=5); (b) present continuous vs. past simple (n=3); and (c) present simple vs. present perfect (n=2). The Hungarian basic learners expressed 30 NOCs, 31% (n=11) marked morphologically, 26% (n=9) marked with *because*. Double marking with morphology plus TADV occurred in four instances. The morphologically marked NOCs varied between (a) present continuous vs. past simple (n=4); (b) present simple vs. present perfect (n=4); and (c) past simple vs. pluperfect (n=1). The overall lower frequency of NOCs at basic level L2 compared to corresponding L1s is consistent with the findings of Bardovi-Harlig (1992), confirming that NOC use is restricted if past tense use in the learner's interlanguage has not yet stabilised.

Pearson correlation coefficients computed to assess the relationship between the frequencies of NOCs and the degrees of condensation in written descriptions

showed no statistical significance for the groups compared (L1s, $r=.15$; C2 versus TL, $r=-.26$; B1 versus TL, $r=.17$). Unlike for film retellings, increases in the frequency of NOCs in picture descriptions did not correlate with increases in the number of propositions embedded per utterance. These results further strengthen the view that linearization and condensation are two mutually independent processes interacting with each other in multiple ways.

8.3.3 *Results from qualitative analyses*

In what follows, linearization preferences in picture descriptions across native speaker groups as well as learner groups are illustrated and compared with the patterns identified in the film retelling task. The selected discourse fragments, examples (9-15), are representative samples per group and each relates to the same part of the stimulus (for the full picture story see Appendix 2).

(9) Example of linearization typical of English L1 picture descriptions

- a. *The boy is jumping with excitement* →
- b. *and the other children are enjoying themselves too.* =
- c. *The baby is on the floor playing with the discarded wrapping paper.* =
- d. *Later that evening, the birthday boy is alone in his room pounding away on his drums.* →
- e. *The whole house shakes with noise,* =
- f. *and downstairs the unhappy parents are plugging their ears* →
- g. *trying in vain to watch TV.* =

The main linearization principle in the English picture descriptions, as example (9) shows, was adherence to PNO and keeping the use of non-chronological order constructions to the minimum. However, in contrast with film retellings, picture

descriptions exhibited an overall frequent occurrence of simultaneous structures. Increased reference to simultaneity is attributable to the richness of simultaneous events shown in individual picture frames when compared with the video frames.

(10) Example of a linearization strategy typical of Czech L1 picture descriptions

- a. *Kamarády s chlapcem se ze sestavy velmi radují.* →
The friends and the boy are all very pleased with the drum kit.
- b. *V osm večer je ještě stále kluk v pokoji za bubny sám* →
At eight the boy is in the room on his own still behind the drums
- c. *a bubnuje do nich co se dá se šťastným výrazem v tváři.* =
and he's drumming as hard as it gets with a happy face.
- d. *V deset hodin rodiče u televize již vědí,* →
At ten o'clock the parents at the TV already know
- e. *že udělali chybu.* ←
that they made a mistake.

Interestingly, the written descriptions of the Czech group did not differ significantly from those of the English group in terms of NOC frequencies. Detailed scrutiny of the spoken vs. written data revealed that Czech participants generally built somewhat more complex structural hierarchies in the spoken descriptions (CON index 2.92) than in the written ones (CON index 2.19). Although the difference between the complexities of hierarchical structures in the two modalities was not statistically significant, it sufficed for the Czech written descriptions with simpler structures (example 10) to comprise fewer NOCs than the spoken descriptions, and resemble the English NOC frequency more than the Hungarian. The Hungarian picture descriptions, as shown in (11), exhibited the highest frequency of NOC occurrence among the contrasted language groups, fully in line with the expectations.

(11) Example of linearization strategy typical of Hungarian L1 picture descriptions

- a. *A fiú barátainak is nagyon tetszik,* →
The boy's friends are also thrilled
- b. *hogy a barátuk milyen jó születésnap ajándékot kapott.* ←
that their friend got such a great birthday present.
- c. *Egy pár órával később a dobolás még mindig változatlan hangerővel folytatódik.* →
After a couple of hours the drumming is still on with unchanged intensity.
- d. *A fiú szülei és kistestvére a nappaliban tévét néznének,* →
The boy's parents and sibling want to watch TV in the living room,
- e. *de mintha megbánták volna,* =
but as if they repented
- f. *hogy dobot vettek a fiuknak.* ←
that they had bought drums for their son.

Linearization in advanced learners' picture descriptions generally showed strong resemblance to principles typical of the respective L1s. Example (12) illustrates the tendency of Czech advanced learners to follow PNO with occasional digressions from chronology in the form of evaluative comments, as in (12h). This particular type of NOC was not found in the English L1 descriptions but was recurrent in both Czech L1 data and Czech advanced learner data, despite explicit instructions to focus on the events only and no need to give details about the background, colours and interpretations.

(12) Example of linearization in advanced ENL2 description by a Czech learner

- a. *The boy's friends leave* →
- b. *and he now has time to practise playing the drums.* →
- c. *He carries on playing for nearly two hours,* →
- d. *which his parents don't seem to appreciate.* =
- e. *They sit in the living room* →
- f. *trying to watch TV* =
- g. *and probably thinking* =
- h. *that it wasn't the best birthday present to give to their son.* ←

Hungarian advanced learner descriptions, as example (13) illustrates, also mirrored L1 event linearization to a great extent, indicating that even advanced learners did not manage to adequately reorganise their ordering techniques to match the target pattern.

(13) Example of linearization in advanced ENL2 description by a Hungarian learner

- a. *He became even more excited* →
- b. *because he got a proper drum set.* ←
- c. *As time passed all his friends went home* →
- d. *and he was left alone with his drums.* =
- e. *However, his parents became a bit disappointed.* →
- f. *They had made a big mistake* ←
- g. *because of the noise it was impossible to do anything in the house.* →

Contrary to the film retellings, where NOCs typically appeared in fairly complex multi-propositional structures, the majority of NOCs in picture descriptions surfaced in simpler mono- or bi-propositional sentences, as shown in (13b) and (13f). It is interpreted as a signal that high condensation was not a necessary prerequisite for NOCs in picture descriptions.

(14) Example of linearization in basic ENL2 by a Czech learner

- a. *Boy get a musical instrument - drum.* →
- b. *Friend stay beside with him,* =
- c. *baby sit on floor* =
- d. *and play with paper from gift.* =
- e. *It's right six o'clock and boy plays on drum very loud.* →
- f. *It's ten o'clock and parents with baby sitting on couch* →
- g. *and watching on TV* =
- h. *and music is loud.* =

On the basic level, Czech learner production showed a trend to include fewer digressions from chronology per description than that of L1 Czech speakers and advanced ENL2 Czech learners. Lower frequency of NOCs is likely to be linked to the incomplete mastery of L2 structures at this developmental stage in which temporal reference is mainly achieved via bare verbs (14a-d), simple positional time adverbials (14e, 14f), and optional V+ing forms (14f, 14g).

(15) Example of linearization in basic ENL2 by a Hungarian learner

- a. *The gift was a drum-set.* →
- b. *The boy was very happy.* =
- c. *This was his dream for years.* ←
- d. *And then he didn't hesitated to start using his new hobbi.* (sic) →
- e. *From 8pm to 10pm he just played and played non-stop.* =
- f. *His parents were so proud* ←
- g. *because they made unforgettable smile for theirs son's face.* (sic) =
- h. *Now can't watch the TV carefully.* →

Despite evident systematicity in the use of morphology in some lower proficiency learners (e.g. +/- past marking in (15)), the descriptions of Hungarian basic level learners were overall found to contain a lower frequency of NOCs in comparison with the descriptions of L1 Hungarian speakers and ENL2 Hungarian learners. Instances of NOCs in simple structures, i.e. mono-propositional (15c) and bi-propositional (15f) sentences, highlight the fact that high levels of condensation may facilitate NOC occurrence but they cannot be seen as an absolute prerequisite for digressions from chronological order in written descriptions.

8.4 Discussion

The analyses of the L1 speakers' and L2 learners' event verbalisations produced three major results. Firstly, linearization preferences characteristic for speakers of a particular L1 proved closely interrelated with the aspectual operators available in that L1. Secondly, the aspectual system of the learners' L1s was found to have an impact on linearization choices of even very advanced learners in their L2 production. And thirdly, consistent event ordering patterns across groups remained largely unaffected by changes of modality (with the exception of Czech picture descriptions), however, they were sensitive to task type (i.e. retellings vs. descriptions). One of the main reasons for the discrepancy between linearization preferences and condensation degrees correlating in the retellings, but not in the descriptions, can be the strength with which chronological and hierarchical relationships cement each type of discourse structure. The next step is to discuss these findings and ideas in more detail.

8.4.1 *Language-specific patterns in event linearization*

Systematic contrasts in the frequencies of non-chronological order constructions corresponding with the presence of a grammatical marker for ongoingness in the aspectual system of English and its absence in Hungarian suggest further crosslinguistic evidence supporting the grammatical aspect hypothesis (section 2.2.5). The results from the Czech native speaker data analyses indicate that it is not the mere availability but also the specific ways a language encodes aspect that guide the selection of a particular perspective in the processes of event construal. How exactly do event ordering preferences relate to particular perspectives?

Linearization preferences do not occur in isolation but are assumed to closely interact with other compatible choices on the level of macro- and microplanning to form individual perspectives. The interrelation of (non-)chronological order constructions with specific temporal structuring choices was found most clearly pronounced.

In Hungarian film verbalisations, where the story line typically advances by means of anaphoric shifting, digressions from chronological order were consistently more frequent than in English. Anaphoric shifting (i.e. a strategy where a given event time is shifted in the posttime of the preceding event time) usually co-occurs with a holistic event perspective (i.e. with reference to endpoints) and explicit specification of posteriority of events (i.e. via temporal shifters such as *then, after that, whereupon*). It is plausible that the frequent use of temporal shifters explicitly specifies temporal relations between individual events, and provides more flexibility in event ordering as it facilitates clarity in temporal information flow when ordering events non-chronologically. Similarly to the Hungarian speakers, the Czech speakers also regularly opted for anaphoric event linkage in their film verbalisations (details in chapter 7) and the frequency of digressions from chronology in their production was relatively high in both modalities. The only exception surfaced in written picture descriptions, where the frequency of NOCs was low enough not to differ significantly from the English pattern. The underlying cause of this phenomenon is rather elusive to pin down and remains open for future investigations. Nevertheless, the overall preference for anaphoric shifting accompanied by a frequent use of non-chronological order constructions can be associated with the structural property that Czech, unlike

English, allows perfective forms in a here-and-now context and thus routinely channels more attention to the right temporal boundary of events (cf. Schriedtová *et al.* 2011).

By contrast, in English production where the topic time is commonly maintained constant with the utterance time (i.e. deictically anchored), significantly fewer NOCs were used. This phenomenon can be caused by the fact that it is in principle more difficult to change the linear presentation of events when they are usually pegged to the utterance time, which can only progress in one direction. The English retellings, besides a relatively low number of digressions from natural order, also commonly exhibit scarcity of references to endpoints and rare explicit specification of temporal relations between propositions. These temporal structuring features seem to align well with the linearization option of stricter adherence to chronological order. If endpoints tend to be omitted and events are seldom linked with explicit temporal devices indicating a marked order, the listener has to rely to a great extent on general knowledge and natural order to decode temporal relations between individual propositions. In this sense, consistent implementation of a particular temporal reference frame may be one of the determining factors for crosslinguistic variation in linearization preferences.

Parallels in previous research on the key role of aspect in event conceptualisation (cf. von Stutterheim & Nüse 2003) emerged in a number of domains. Studies suggesting that language-specificity in event conceptualisation is linked to aspect include examinations of the effect of aspect on memory and re-enactment (Hart and Albarracín 2009); on attention to specific event components

(Papafragou *et al.* 2008); and also on goal oriented motion (for Dutch and German: Flecken 2011, for Swedish and Spanish: Bylund 2011a). Future research exploring the relation between grammatical aspect of L1 and event conceptualisation processes in L2 will certainly benefit from balancing the current dominance of verbal experiments with more non-linguistic tasks (e.g. eye-tracking, similarity judgements, recognition, categorisation). Plurality of evidence types might help to further deepen our understanding of the scale of effects grammatical aspect has on event cognition.

8.4.2 *Conformity of L2 production to L1 event ordering patterns*

Film retellings of advanced second language learners from first language groups with a high degree of typological dissimilarity between the source and the target languages demonstrated that the entrenchment in the temporal organisation of L1 caused by the L1 aspectual system has an impact on the process of linearization in L2. Advanced learners' event ordering preferences were found to conform to L1 linearization patterns. This supports Slobin's (1996) Thinking for speaking hypothesis by indicating that event conceptualisation processes are indeed influenced by the speaker's native language. Both Czech and Hungarian advanced learners remained largely insensitive to the role which the grammaticalised temporal concept of ongoingness plays in English information organisation. Their use of multi-propositional non-chronological sequences shows that they have not sufficiently managed to reorganise their L1 principles and attune them to deictic event linkage characteristic for a low frequency of non-chronological order constructions. Difficulties on this level signal that if event ordering in the target language conforms to different principles than in the source language, then even

highly advanced learners with sound formal L2 knowledge tend to remain fixed in linearization principles of the L1. This is reflected not only in higher NOC frequencies but also in the substantially less systematic choice of forms for NOC marking. Despite evident limits in formal L2 competence (i.e. difficulties with subordination; use more complex morphology), basic learners also exhibited a trend to digress from chronological order more frequently than the target controls.

Sustained conformity to L1-specific patterns found for linearization in L2 challenges the view that L1 concepts are reorganisable in favour of the L2 concepts (Athanasopoulos & Kasai 2011, Papafragou *et al.* 2008). Instead, the findings of this study are consistent with related SLA experiments reporting very limited or no traces of conceptual reorganisation in L2 (e.g. Hendriks *et al.* 2008; von Stutterheim & Lambert 2005). In the context of current studies on event cognition, the present findings are at variance with the view that L2 learners are able to adjust L1 thinking-for-speaking principles in L2 on the level of microplanning (Bylund 2011b) and support the idea of overall reliance on L1 event construal principles in L2 (Schmiedtová *et al.* 2011).

8.4.3 *Sensitivity of linearization patterns to task type*

Descriptions of a static stimulus were compared with narrations of a dynamic stimulus to assess potential effects of task type on linearization preferences in L1s and L2. The related hypothesis involved two main predictions, namely that L1 effects in L2 linearization would emerge in both tasks regardless of modality, and that the frequency of non-chronological order constructions would increase as a function of complexity in propositional hierarchies irrespective of task type. The

former prediction was fully corroborated by the results. However, task type proved to have an effect, i.e. while in film narrations higher degrees of condensation correlated with increases in digressions from chronological order, this was not the case in picture descriptions. One plausible explanation might be that contrary to the descriptive structure, the sequence of narrative events is more strongly dictated by causal and chronological relationships and also by a hierarchical superstructure (Favart & Passerault 2009). In other words, the task of building a story from static picture frames may invite adherence to chronology more than the task of building a story from a fast sequence of video frames, which presents a generally more hospitable environment for reordering possibilities.

8.5 Conclusion

This chapter examined the acquisition of event linearization patterns by basic and advanced L1 Czech and Hungarian learners of L2 English. In particular, it looked at linearization preferences in film retellings and picture descriptions in order to examine the extent to which L2 learners are susceptible to reorganising L1 event conceptualisation patterns in their L2. Each task was conducted by the L1 groups in both spoken and written modality, the film retelling task by the L2 groups was carried out in speech, and the picture descriptions task by the L2 groups in writing. In addition, linearization preferences were analysed together with condensation degrees in order to see whether these two processes interact.

The results showed overall conformity to L1 patterns in the event ordering of advanced L2 learners. A similar trend was observed in basic varieties despite

typical deficits in morphological marking of temporal relations and also the limits in subordination skills at this level. Linearization preferences in advanced varieties were found to correlate with condensation degrees and with language-specific structurally-driven perspectives in event construal. These findings are interpreted as evidence supporting the claim that the way a given L1 encodes aspect in its grammar and the way it marks ongoingness influences event conceptualisation in L2.

Taken together with previous related studies, the present findings contribute to the vibrant debate on conceptual shift in L2 acquisition, support the idea that reconceptualisation in L2 is extremely limited, and add insights into the rich mosaic of relations between language structure and cognition.

Chapter 9

General discussion and conclusions

9.1 Summary and discussion of the results

9.1.1 Event conceptualisation contrasts across L1s

Analyses of the L1 production data showed that native speakers of Czech, English and Hungarian significantly differ in the preferred ways in which they organise temporal information in discourse. Specific principles for anchoring events in context were not based on random decisions but were found to form consistent clusters of compatible choices on both micro- and macro-level of conceptualisation. Typical choices found within groups are directly attributable to language-specific aspectual operators in the grammar of the respective language. Further clustering around linguistic means other than grammatical aspect is not ruled out. What exactly are the differences in conceptualising events across L1s and how are individual conceptualisation processes reflected in L1 discourse?

- *Segmentation*

Language-specificity in event segmentation surfaced as a contrast between the preferences of English speakers, who tend to opt for a highly granular event resolution and focus on individual phases, and Czech and Hungarian speakers who instead favour a more coarse-grained resolution and systematically opt for a holistic view. Crosslinguistic variation in segmentation was found closely interlinked with aspectual operators in the given L1 system. The tendency to refrain from a detailed decomposition of events into phases (in Czech and

Hungarian production) corresponds with a relatively lower regularity of grammatical aspect marking and lesser or no availability of a specific grammatical ongoingness marker. Consistent patterns in temporal event partitioning emerged in both tested modalities, however, task type showed an effect. Whilst native speakers displayed significant between-group differences for the levels of granularity in film retellings, no such differences emerged in picture descriptions. This difference in segmentation results can be attributed to grounding, namely to the difference in expressing event information more commonly as part of foreground (in retellings) vs. as part of background (in picture descriptions). The nature of the tasks and the stimuli can provide due explanation. Presentation of information in the film involves showing events together with their phases, which is likely to induce generally higher granularity and more information in the foreground, leading to more pronounced differences in segmentation if in one language speakers typically focus on event phases and in the other speakers do not. However, events in the picture story are shown without individual phases; phases need to be construed if the narrator wants to express them. This is likely to prompt generally lower granularity and the static nature of the pictures may prompt more information in the background (expressed as states), leading to less pronounced differences in segmentation when comparing a typically phase-focusing language with a language in which speakers prefer a holistic view.

- *Selection*

Looking at endpoint selection frequencies in goal-oriented motion events, diverse preferences were clearly found in correspondence with holistic (Czech, Hungarian) vs. phasal event perspectivation (English). Czech and Hungarian speakers exhibited a strong emphasis on endpoints; both for situations in which

the endpoints were shown as reached and also for situations in which endpoints were not reached but inferable from the context. In contrast, English speakers based reference to endpoints exclusively on evidence from the stimulus. This difference is likely to be rooted in increased focus of English speakers on *what is the actual case* at the moment of speech, which excludes the mention of possible endpoints as these are not of immediate relevance when a phasal perspective is adopted. On the other hand, lack of systematicity in available grammatical means for a direct channeling of attention to ongoing event phases is likely to lead Hungarian and Czech speakers to view events holistically and verbalise them with the inclusion of endpoints, regardless of if these are based on evidence or inference. The stability of influence of grammatical aspect on endpoint selection was strengthened by qualitative results. They show a high systematicity in pairing endpoint-denoting motion events with non-progressive constructions in English production, as opposed to a wide variety of constructions used for the same purpose in both Czech and Hungarian production. As for the perceptual saliency of language-specific endpoint selection linked to perspectivation preferences, tests measuring the sensitivity to narratives with a language-incongruent perspective showed that for speakers viewing events holistically it is more difficult to detect a switch to a phasal perspective than it is vice versa.

Another important finding concerns the relationship between selection and segmentation. Correlation tests showed that the rates of motion events used to segment the story and the frequency of selected endpoints in these segments are not necessarily proportionate, suggesting that segmentation and selection are autonomous processes and each of them contributes to event conceptualisation independently.

- *Structuring*

Comparisons of temporal structuring preferences in native speaker discourse revealed crosslinguistic contrasts, which surfaced as differences in topic time management. Hungarian and Czech speakers show a preference to specify topic time by means of anaphoric shifting, i.e. by locating a given topic time in the post-time of the previous situation time (Figure 9.1).

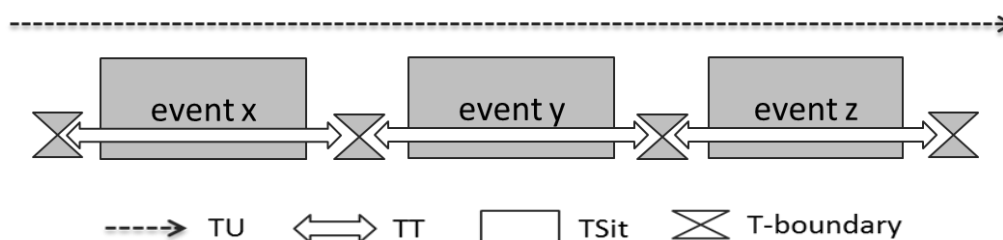


Figure 9.1 Temporal linkage based on anaphoric shifts

(the current TT is located in the post-time of the preceding TSit, event boundaries (T-boundary) are specified to act as anchor points for the next TT, and event chain formation is more typical than linking each TT to the TU separately)

This technique is characterised by a holistic view on events, increased levels of condensation and a high frequency of temporal adverbials used to specify temporal links between events. English speakers, by contrast, tend to maintain temporal coherence in discourse by means of deictic anchoring, i.e. by linking topic time to utterance time (Figure 9.2).

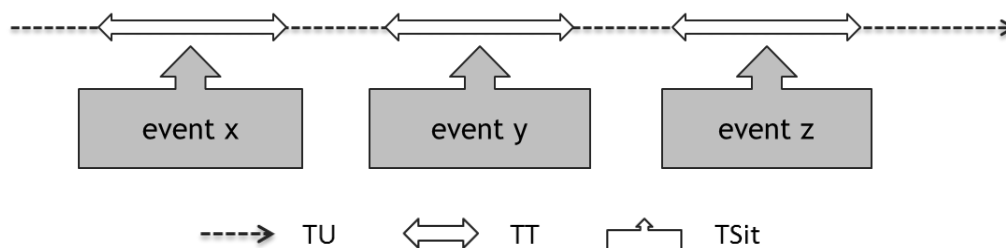


Figure 9.2 Temporal linkage based on deictic anchoring

(TT is maintained constant with the TU, events are linked to the TU, individual relations between TSits are left implicit and their temporal boundaries unspecified)

This technique typically coincides with a focus on ongoing phases, with unspecified temporal boundaries of events, and a relatively lower level of condensation. Language-specific patterns found in topic time management strongly support the idea that grammatical aspect is a key temporal device for supporting distribution of temporal information in structures that ensure unambiguous reference to event relations and that best fit within individual schematic frameworks for conceptual organisation. This is further corroborated by the finding that significantly higher condensation degrees and a more frequent use of temporal adverbials correlate with anaphoric shifting in unrelated languages (Hungarian and Czech) both of which operate with a less regular and less transparent aspectual system. Particular structuring patterns were found to hold across modalities, yet they quantitatively differed across task types. Close qualitative examination helped to establish that despite the discrepancy in results on the level of frequencies, the underlying temporal structuring patterns per language group were identical in responses to both tasks.

- *Linearization*

Event linearization preferences were examined via frequencies of non-chronological order constructions and their distribution across various linguistic markers. Language-specific linearization contrasts emerged between Czech and Hungarian on one side vs. English on the other, i.e. between holistic and phasal schematic frameworks. Significantly more digressions from chronology were found for the Czech and Hungarian groups, in which speakers tended to view events holistically and relied on a frequent use of temporal shifters for event linking. Increased explicit specification of time relations between events via temporal shifters was likely to provide more flexibility in linearisation because it

may have helped to maintain high clarity of the exact information flow even when the event order was not chronological. In English, the relatively low rate of non-chronological constructions is attributable to its best fit with deictic temporal anchoring. When events are linked to utterance time, which progresses strictly in one direction, it may be harder to interrupt chronological order. Crosslinguistic differences in linearization were consistent in both tested modalities. Moreover, increased digressions from chronology correlated with higher degrees of condensation in the film retellings. Linearization contrasts were somewhat different in written picture descriptions, where the Czech speakers inclined towards the English pattern rather than towards the Hungarian pattern. Nevertheless, more detailed analyses of how native speakers distribute non-chronological constructions across particular markers showed that the English speakers were far more systematic in the choice of morphological forms than the Czech and the Hungarian speakers, including in written picture descriptions.

9.1.2 Event conceptualisation processes in advanced L2

The conceptualisation of events by formally proficient L2 learners was examined using a series of systematic quantitative and qualitative comparisons of advanced L2 production with baseline data from native speakers of the source and the target languages. Each quantitative statistical test was complemented with an equally important qualitative analysis, which ensured that indications provided by one test type could be confirmed or disconfirmed by findings of the other. How successful were advanced learners in adopting the target temporal discourse organisation principles? The results show that (a) conceptualisation patterns found in corresponding L1s are resistant to reorganisation according to L2 principles even in highly advanced L2; (b) attempts to shift from L1 to L2 patterns commonly

result in non-standard event construal digressing from the target pattern; and that (c) language distance in terms grammaticalisation of ongoingness in the aspectual systems is a sufficiently reliable tool for predicting how learners with L1s that have less regular aspectual systems will differ in the acquisition of L2 principles for some processes (structuring) but not for others (segmentation). What are the precise techniques in which learners at advanced level combine lexical, grammatical and discourse means to establish temporal coherence and how do these techniques interact with individual event conceptualisation processes?

- *Segmentation*

Advanced L2 learners in both tested groups exhibited sustained conformity to L1 segmentation patterns. Continued reliance on L1 in the course of temporal event partitioning was reflected in the significantly lower granularity indices of Czech as well as Hungarian advanced learners when compared with target native speaker production. But this is not the result of advanced learners merely adjusting L2 material to L1 segmentation patterns. Attempts to adopt target-like segmentation were evident, especially in cases when learners encountered difficulties when combining source and target patterns. The most pronounced difficulties were manifested as overgeneralisations of phasal segmentation (extension of phasal marking to any durative verb) and as combinations of incompatible means for linking event phases (violation of phasal event construal by combining inceptive event phases with adverbs specifying right temporal boundaries). Even though such combinations are not ungrammatical, they clearly digress from target segmentation patterns.

Another important finding concerns the relation between segmentation and language distance, namely the fact that the differences between L2 and TL granularity indices (Czech->Hungarian->English) did not mirror the distance between L1 and L2 grammatical aspectual systems (Hungarian->Czech->English) as did the differences between L1 and L2 granularity indices. It turned out that Czech advanced learners were further away from the TL pattern than the Hungarian learners due to recurring non-standard decomposition of states and achievements into phases and also due to linking inceptive phases directly to endpoints, which are interlanguage phenomena that coincided with decreased granularity. These specific interlanguage characteristics were found to be highly relevant for the acquisition trajectory of one TL event conceptualisation pattern (i.e. fine-grained segmentation) but evidently not for the other (i.e. structuring via deictic event linkage). In a wider context, the finding that the relative L1-L2 distance in grammaticalisation of aspect cannot serve as a sufficiently reliable predictor of how learners from particular L1s will differ in approximating TL event conceptualisation patterns in all four processes means that interlanguage characteristics need to be considered for testing process-specific hypotheses.

- *Selection*

Evidence that advanced learners are able to at least partly reorganise their L1 concepts comes from endpoint selection analyses. Both Czech and Hungarian advanced learners managed to approximate to target-like endpoint frequencies when verbalising motion events in film retellings. On closer inspection, however, their apparent native-likeness was in fact limited to the level of frequencies, and on the qualitative level the L2 narratives exhibited endpoint selection strategies typical of L1s. The most conspicuous digression from the target was the learners'

distribution of endpoints in phasally marked motion events, i.e. in inchoative and progressive structures. In addition, signals of non-native-likeness also emerged as typically L1-like specifications of unreached endpoints in the picture descriptions of both groups. These examples demonstrate that advanced L2 learners may be sensitive to the target selection principles in some respect, however, L1 patterns for encoding endpoints in their L2 production are still evident.

- *Structuring*

Czech and Hungarian advanced learners still largely opted for linking events anaphorically and produced propositional hierarchies that were significantly more condensed than in the TL. Some signs of approximation to L2-like structuring were detected, but such instances commonly included semantically incompatible combinations of imperfective structures with anaphoric shifters. The combination of anaphoric shifters marking punctuality with temporally unanchored TL-like imperfective structures can be characterised as an attempt to blend reference frames of the source and the target languages. Despite grammatical flawlessness of these constructions, the insertion of imperfective forms marking duration into a holistic event frame had no parallel in the English L1 dataset. Identification of such combinations in both advanced learner groups, modalities and task types is therefore strongly evocative of temporal structuring principles typical of the learners' native languages. As for the magnitude of L1 influence on L2 structuring, contrasts between the choices of Hungarian learners and the English natives were more pronounced than between the Czech learners and the English natives. This finding confirms the prediction that language distance in terms of regularity in encoding aspect can serve as a good predictor of how advanced learners from particular L1s will differ in approximating temporal structuring

patterns of the target language. The finding that similarities in encoding aspect can facilitate acquisition of temporal structuring patterns in L2 is important as it provides evidence in favour of linguistic relativity by showing that digressions from TL arise due to inadequate rethinking for speaking and not to some universal developmental phenomena which would be shared by all learners of L2 English.

- *Linearization*

Event ordering patterns found in the discourse of Czech and Hungarian advanced learners were largely concordant with patterns in the corresponding L1s. Evidence that target-like ordering principles have not been sufficiently adopted come from two test types: between-group analyses of non-chronological order construction frequencies, and tests comparing the distribution of non-chronological order constructions across different forms. In the first test type, significantly more frequent digressions from chronology in the advanced learner production than in the target data point to insufficient reorganisation of linearization principles. Supplementary qualitative analyses showed that learners digressed from the target not only by using more NOCs than the English native speakers but also by forming multi-propositional non-chronological sequences within single utterances. The tests looking at NOC distribution revealed that when marking NOCs morphologically, learners are far less systematic than the English native speakers in the choice of particular forms. All these digressions from the target pattern reflect sustained conformity to L1-specific linearization preferences and demonstrate that learners have not been able to attune their L1 principles to deictic event linkage. Despite advanced formal knowledge of the L2, learners have not fully recognised the importance of the grammaticalised concept of ongoingness for temporal discourse organisation in English. As for the relationship between

linearization and condensation, variability in advanced learner results (i.e. correlation found in film retellings but not in picture description) helped to strengthen the view that these two processes operate in mutual independence.

9.1.3 *Event conceptualisation processes in basic L2*

Examining various conceptualisation processes as they are manifested in linguistic and discourse-pragmatic choices of basic level learners helped to illuminate how second language acquisition of a new temporal reference system develops. The results present empirical support that basic learners are assisted as well as restricted by their L1 and TL temporal systems. Moreover, some of the observed choices in temporal discourse of BV learners show that conformity at this level is not strictly limited to source language patterns, nor to target language patterns or to a mixture of the two (e.g. *then Jimmy start making play that guitar*). These unique characteristics may arise as a result of twisting both the SL and the TL properties to meet communicative needs, and invite the consideration of interlanguage as a rule system *sui generis* (Adjemian 1977, Selinker 1972, Tarone 1983).

- *Segmentation*

In the developmental stage when lexical and discourse-pragmatic means serve to establish the central temporal relations, learners from both BV groups demonstrated that grammatical competence is not a necessary prerequisite to manipulate the levels of event granularity according to communicative needs. BV learners showed that they are not only able to achieve a fine-grained event decomposition by means of a clever management of temporal adverbials (e.g. the

iterative use of TADVs to indicate extended topic time), but they are also capable of reference to particular event phases with the use of emerging lexical temporal boundary markers (*start, finish*). Interestingly, overgeneralisation of inceptive phase marking, one of the interlanguage features also present in advanced L2 varieties, already surfaced at the BV stage. Basic level learners commonly attempted to use inchoative constructions for this purpose, however, they often missed the target segmentation pattern for two main reasons. First, they tended to overuse inceptive phase marking for any durative verb, without further specification of relevant progressive and/or terminative event phases. This segmentation technique naturally coincided with somewhat underdeveloped narratives because the speakers heavily relied on implicit discourse-pragmatic principles to guide the listener in decoding the unspecified event phases. Second, some uses of inchoatives exhibited attempts to phasally decompose instantaneous events, atypical for TL as much as for the corresponding L1s. Overall though, the results show that learners at the BV stage are able to segment events and to modify granularity levels in discourse in order to meet the minimal requirements for a comprehensible event development in fairly complex communicative tasks.

- *Selection*

Despite heavy reliance on shared presupposed knowledge typical of learners at the basic variety level (Dietrich *et al.* 1995, Starren 2001), frequencies of endpoints selected in the verbalisation of goal-oriented motion events in the BV production were significantly higher than in English L1. BV learners preferred to specify reached as well as unreached endpoints, following the principles of their L1s. Another digression from the target selection patterns in both BV groups was manifested in attempts to combine phasal markers (especially inchoatives) with

endpoint-denoting GMEs. Such attempts demonstrate implementation of unnecessary complexity in terms of the number of encoded semantic components in GMEs, which go beyond TL needs. If BV learners fall back on their L1 information selection principles, overuse of endpoints may actually work as a relief strategy before they familiarise themselves with the TL principle that inceptive phase marking in English combines not with a holistic but with an endpoint-free zoomed-in view on events. It is therefore evident that the interaction between event component selection with corresponding discourse organisation principles on the global level of macroplanning and the linguistic means on the local propositional level play a crucial role in the L2 acquisition of temporality. In sum, the results not only signal that L1 selection principles are woven into the fabric of basic learners' event construal in L2, but also highlight the interlanguage phenomenon that inadequate formal competence does not deter learners from experimenting with more complex and semantically dense constructions (such as reference to events with phase/mood/manner/goal marking and temporal subordination).

- *Structuring*

The presence of TADVs before the emergence of temporal morphology in basic varieties provides the necessary linguistic material to build temporal event linkage on anaphoric shifts. Shifting topic time from one event to another did indeed become the clearly dominant schematic frame used by both BV groups, in both modalities and both task types, strongly evoking the structuring preferences of the corresponding source languages. Nevertheless, temporal structuring of BV learners should not be seen as a simple insertion of TL material into an L1-based frame for at least two reasons. First, the condensation degrees at BV level are

distinctly lower than in the corresponding L1s due to yet underdeveloped linguistic skills for building complex propositional hierarchies. Second, evidence for blending elements from L1 and TL can be found as soon as grammatical aspect marking starts to emerge, suggesting that learners experiment remarkably early with exceeding the temporal structuring possibilities of their L1s. The most frequently recurring novelty is the blending of imperfective constructions with boundary-marking positional TADVs (e.g. *grandfather was immediately playing the guitar*). Blending of this type yields problematic results as the flow of temporal information gets disrupted by the juxtaposition of an unanchored construction marked for ongoingness and a construction expressing a temporal boundary. Explanatory factors that may account for the emergence of this phenomenon are twofold: (a) cognitive import of L1 event structuring patterns mixed with newly encountered forms in L2, and (b) communicative need to express more than lexical means can provide and struggling to adopt target-like structuring configurations. Since there is no explicit rule against blending temporal frames in the grammar of English, it is not surprising that such use of non-targetlike combinations persists in the interlanguage even in advanced learner varieties.

- *Linearization*

What is the expressive power and what are the limitations of the linguistic repertoire at BV stage for variations in linearization? How do basic learners proceed when the natural order needs to be modified because of some communicative pressure? Contexts triggering such pressure appeared in the film retelling as well as in the picture story task, in scenes where multiple events happened at the same time. These contexts constitute a potent testing ground to

examine how learners tackle ordering adjustments with the linguistic means at their disposal. Results showed that BV learners typically exploit lexical means (mainly positional TADVs) to express digressions from chronology. In terms of NOC frequencies, BV production exhibited a lower yet still comparable rate of non-chronologically ordered events to those found in the corresponding source languages. It is therefore not the rate of digressions from natural order but rather the distribution of NOCs across linguistic means which makes the BV ordering preferences stand out. Characteristic features of NOC marking at BV stage can be summed up as (a) a relatively high rate of TADVs; (b) occurrence of zero explicit marking even when event order is not implicitly marked via lexical items; and (c) a relatively low rate of tense/aspect contrasts. The dominance of TADVs fully accords with the characterisation of BV as the lexical stage of L2 development (Dietrich *et al.* 1995); occasional omissions of explicit markers are most likely to be remnants from the pragmatic (pre-BV) stage; and the low rate of tense/aspect contrasts can be explained by the yet nebulous morphological system. With regard to emerging morphology, the results align well with earlier findings (Bardovi-Harlig 1994a) showing that early instances of morphologically marked NOCs are typically expressed as a contrast between present simple and past simple.

9.2 Relating results to the adopted theoretical framework

Which processes of language production are influenced by the speaker's L1 system and which message planning stage(s) exhibit the impact of the L1? Two competing assumptions have been imported into this study alongside the adopted

framework: (a) Levelt's model (1989) predicts that preverbal messages are tuned to language-specific requirements only in certain parts of the conceptualisation process and that language-specificity is limited to the stage of micro-planning; whereas (b) Slobin's Thinking for Speaking hypothesis (1996) assumes conceptualisation to be an integral component of language production that is globally influenced by language-specific features.

9.2.1 *The language production model revised*

Empirical findings from L1 analyses point to language-specificity on both levels, micro-planning and macro-planning. The impact of L1-specific grammatical features detected in structuring and linearization (micro-planning) as well as in segmentation and selection (macro-planning) clearly challenge Levelt's proposition that macro-planning processes are language-neutral. In addition to findings from L1s, support for language-specific event conceptualisation in all four examined processes, to varying degrees, also comes from L2 varieties. Learners from typologically distant L1s display high levels of formal L2 competence, yet their discourse organisation commonly bears symptoms of L1 and digresses from target-like patterns.

The identified language-specific segmentation and selection patterns signal that the knowledge of how particular grammatical forms are employed for temporal organisation in discourse is needed earlier than message formulation or microplanning take place. In fact, language-specificity found for these processes shows that grammatical knowledge is an active facilitator during all four processes in the conceptualizer. These findings necessitate some modification in Levelt's model (Figure 9.3) in order to increase its explanatory power.

Incorporating grammatical features into the knowledge base, as also advocated by von Steutterheim *et al.* (2012), enables the conceptualizer to generate preverbal messages in compliance with the complex set of requirements connected to topic time specification, temporal grounding, and particular micro- as well as macroplanning choices. If grammatical knowledge was not integral to event conceptualisation as a whole, language-specific contrasts in segmentation and selection directly attributable to aspectual operators would be unlikely.

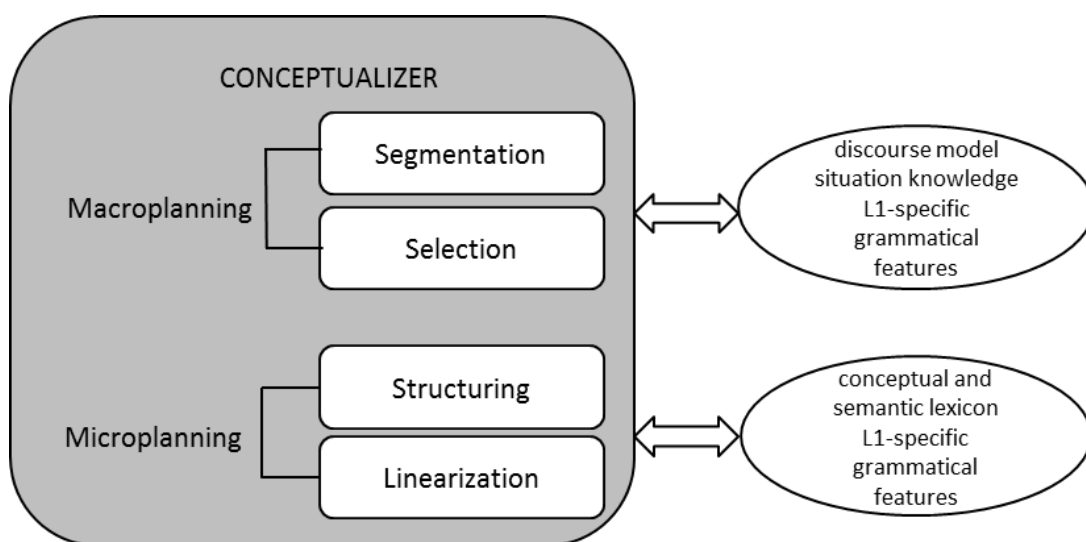


Figure 9.3 Processes of event conceptualization in the revised language production model. Boxes represent processing components, ellipses symbolise knowledge stores, and bidirectional arrows stand for a two-way interaction.

However, the results show that this is indeed the case. In English, the integration of grammatical knowledge into conceptualisation is displayed by the finely tuned use of progressive forms for deictic anchoring and related choices. For Czech and Hungarian speakers, language as a contributing factor to event conceptualisation surfaces in the systematic usage of temporal adverbials for anaphoric shifting.

9.2.2 *Thinking for speaking and conceptual transfer*

Is Slobin's model of Thinking for Speaking able to provide a more comprehensive explanation for the reported results than Levelt's model? Do L2 learners think in the L1 when they speak in the L2? The Thinking for Speaking model assumes that speakers in the process of verbalising events 'pick those characteristics that (a) fit some conceptualization of the event; and (b) are readily encodable in the language' (Slobin 1987:435). It follows that crosslinguistic contrasts should surface between speakers whose languages differ in the degree to which particular event characteristics are encodable. The L1 results for Czech vs. English vs. Hungarian not only confirm this prediction but also help to elucidate that the extent to which event conceptualisations vary hinges upon the expressive means that direct the speaker's attention to specific temporal contours of events. These contours define the requirements that speakers need to accommodate when events are contextually anchored and their temporal relational system is built. For English speakers, the defining event contour driven by the systematicity of the aspectual system and the availability of a specific marker for ongoingness is the phasal view, whereas for Czech and Hungarian speakers it is the holistic view. Systematic comparison of characteristic contours in more than one pair of distant languages enables the arrangement of linguistic systems on a typological continuum, rather than on a rigid dichotomy, between typical holistically conceptualising and typical phasally conceptualising languages. Particular event conceptualisation patterns arise from clusters of form-function pairings that are compatible with time relational systems built on the expression of topic time and the language-specific distribution of related grammatical forms.

Looking at L2 production, the presence of L1 event conceptualisation patterns bears witness to the influence of native language on thinking and expressing events in the second language. Although the L2 results are largely supportive of Slobin's proposal, the idea of thinking in L1 for speaking in L2 has some limits in its explanatory potential and cannot account on its own for interlanguage characteristics that do not conform either to L1 or to L2. For a fuller account of how learners think when they speak in L2, idiosyncratic uses restricted to interlanguage need to be considered in addition to conceptual transfer from the L1.

9.2.3 *BTS, grammatical aspect and ultimate attainment in SLA*

We know that temporal coherence depends on compatible configurations between discourse principles on the global level and temporal linguistic means on the local level of propositions. We also know that repertoires of time adverbials, explicit tense-aspect markers as well as implicit discourse principles boast great diversity not only across languages but also in developing learner varieties. In order to embrace the vast array of possible combinations of these devices, Klein's Basic Time Structure (1994) proved a solid and sufficiently language-neutral analytical tool. It was largely applicable to native speaker as well as learner data and helped to identify how various configurations of temporal means differentiate L1s and learner varieties at particular stages of L2 acquisition. It also helped to pinpoint when preferred patterns of organising temporal relations were not followed consistently.

Successful accomplishment of the set tasks meant that the participants first needed to anchor events that form the film and the picture story on an imaginary

timeline. They had to decide on an anchoring tense for this timeline, i.e. on a TT-TU relation, which locates the time of the story into the past or the present with respect to the time of utterance. Once the anchoring/narrative tense was established, the main challenge was to convey events and their relations in a coherent way, by creating an optimal balance between temporal devices that ensured an undisrupted information flow.

In the course of establishing and maintaining temporal coherence, the conceptual choices linked to segmentation, selection, structuring and linearization were found to differ according to the criterion of grammatical aspect, specifically according to the availability, regularity or absence of a grammatical marker for ongoingness. Grammatical aspect was shown to be directly linked to language-specificity in the processes of event conceptualisation, confirming that ‘each language is a subjective orientation to the world of human experience, and this orientation affects the ways in which we think while we are speaking’ (Slobin 1996:91). These observations confirm the underlying hypothesis that the speakers’ choices of the temporal properties of events for verbalisation differ in accordance with the provision of grammatical aspectual markers in the L1 (von Stutterheim *et al.* 2002). Based on the degree of regularity with which the L1 grammatical aspectual system marks specific temporal concepts, speakers develop consistent sets of principles forming specific temporal referential frames. Hungarian and Czech speakers construct a holistic frame and English speakers rely on a phasal frame, and they do so as these frames provide a high degree of coherence when integrating language-specific structural elements for the organisation of temporal relations in discourse.

As for cultural differences, they admittedly play a role in response variation, especially if the stimulus depicts everyday events. To make sure that the main variable in the management of temporal relations is structural rather than cultural, the present study included groups of native speakers with different cultural backgrounds. This choice ensured that if patterns of temporal reference converge, they do so on the basis of structural proximity (i.e. regularity of marking aspectual contrasts and availability of a specialised marker for ongoingness in English vs the lack of it in Czech and Hungarian) rather than due to shared culturally-driven preferences.

The conceptual implications of L1-specific structural features are clearly manifested in the organisation of content for expression in L2. Data from basic and also highly advanced learners provides evidence that principles linked to L1-specific structural features guide choices in L2 not only during microplanning processes (Bylund 2011a, van Ierland 2009) but that they extend to macroplanning as well (Schmiedtová *et al.* 2011). The results from advanced learner groups corroborate suggestions that the acquisition of L2 information organisation principles is a persistent problem even at very advanced stages (von Stutterheim & Carroll 2006) and that reconceptualisation in L2 oscillates between very limited to zero (Hendriks *et al.* 2008). Digressions from the target organisation despite achieving very high formal L2 proficiency may be due to the fact that L1-specific perceptual processing is so powerful that it modifies the relative perceptual saliency of L2 elements (Ellis 2008) and leads learners to inconsistencies in building a conceptual framework on the basis of the relevant L2 elements. Suboptimal capacity of L2-learners to adjust their conceptual framework to complex TL-specific sets of principles appeared in the production of

Czech and Hungarian advanced learners with an early (AOA=4) as well as later onset of L2 acquisition (AOA=11-14), suggesting that the endstate in L2 attainment should be seen as near-native rather than native-like (Abrahamsson & Hyltenstam 2009).

9.3 Limitations and avenues for future research

9.3.1 Task type effects

Discourse organisation exhibited sensitivity to changes in task type. Task-sensitivity surfaced in the comparisons of between-group differences in event conceptualisation when the narratives were elicited by means of a short film (*Heyday*) vs. when using a picture story (*The Drums*). The film retelling task triggered symmetrical between-group differences in L1s (English vs. Czech and Hungarian) for the levels of segmentation, rates of selected endpoints, degrees of condensation, frequencies of specifying temporal relations with time adverbials, and also in the use of non-chronological order constructions. No such symmetry was found for the differences between conceptualisation processes in the L1 picture descriptions (i.e. no statistical significance in segmentation differences and endpoint selection; quantitative resemblance of Czech NOC frequencies and CON degrees to those in English rather than to those in Hungarian). This discrepancy in quantitative results invites the idea that the generalisability of the identified language-specific features in event conceptualisation is limited to specific task types. Nonetheless, systematic qualitative comparisons revealed that the underlying language-specific principles that guide the processes of information organisation are indeed consistent across task types, and align well with the

available aspectual operators in the grammar of a language. To investigate the stability of language-specific features in event conceptualisation further, future research will certainly benefit from including a diversity of stimuli and task types.

Previous research showed that in languages with a less regular aspectual system, such as Dutch and Italian, the constructions relevant for marking ongoingness might be more readily accessible when the task is conducted under time pressure (Flecken 2010, van Ierland 2010). Experimental trials in which less time was provided for verbalisation between video clips increased the overall use of progressive forms. It would therefore be interesting to test whether increases of task demand by shortening the speaking time between individual film segments would prompt more frequent uses of forms marking ongoingness in Czech; and also, whether higher processing demands bring about even stronger adherence to familiar L1-like event construal patterns in learner discourse.

As for form-function pairings that look neither like the L1 nor like the L2, SLA research has documented that the interlanguage rule system becomes more permeable to unusual and aberrant constructions when learners are in observed experimental situations (Selinker & Douglas 1985, Tarone 1979). A productive extension of the current study would thus be to test whether similar unusual communication strategies occur in spontaneous production.

9.3.2 *Individual variation*

Although the consistency regarding the choices linked to the four message planning processes was high on the group level across L1s and L2 varieties, no statistical tests were conducted to determine the extent of inter- and intra-speaker variation. The presentation of results centred on group averages, without much

notice of rate distribution within groups or within individuals. Even though most of the analyses revealed systematic L1 and L2 group preferences for particular choices per conceptualisation process, it is possible that participants developed specific event construal strategies during the tasks in order to economise language production or relieve cognitive load by packaging information into relatively similar constructions (cf. Ochsensbauer, in press). With the employed methodology taking group means as the base for comparisons, highly specific and individualised event construal strategies could pass unnoticed. However, this limitation can be converted to become a fruitful avenue for future research. Detailed quantitative scrutiny of intra-group and intra-speaker differences in future studies promises a good potential for answering questions about individual degrees of conformity to language-specific event conceptualisation patterns as well as about possible tendencies to economise language production in complex communicative tasks.

9.3.3 Linguistic expression and cognitive processes

There is little doubt that most of how humans perceive the world is based on shared cognitive mechanisms shaped by the evolution of our species. Still, pronounced language-specific differences emerging when we transform perceived information into verbal expressions suggest that different conceptual categories encoded in our native languages can act as cognitive amplifiers leading us to be more attentive to some aspects of experience than to others. The findings reported in the empirical chapters of this dissertation have limited explanatory potential with respect to cognitive processes per se, as the evidence is based purely on linguistic data. To investigate the interaction between linguistic expression and cognitive processing in more detail, future studies of contextualised event

conceptualisation may wish to examine contrasts in linguistic performance alongside potential contrasts in higher order processes (categorization, memory, attention) and differences in brain activity (ERPs).

Stimulating results from recent explorations show contrasts in the distribution of attention measured via eye tracking and memory tests when native speakers of languages with a grammatical marker for ongoingness vs. languages without it select event components for expression (von Stutterheim *et al.* in press). Using a different approach, event conceptualisation studied via neuroimaging showed significant variation in brain activity (ERPs) when speakers encoded events in a chronological vs. non-chronological order (Habets *et al.* 2008). Application of these methods to other, yet underexplored processes of conceptualisation combined with a crosslinguistic design may prove valuable steps forward in assessing the magnitude with which grammatical aspect shapes cognition.

9.4 General conclusions

The present investigation was propelled by the idea that essential skepticism towards linguistic relativity helps to push the boundaries of what we know about the link between language structure and event cognition, and that it helps to avoid merely reconfirming the prevailing wisdom that grammatical aspect can influence the mind of the speaker in generating preverbal messages. This approach yielded a threefold benefit: (a) it managed to generate a highly specific list of representative features showing how linguistic choices are typically mapped onto the conceptual options of segmentation, selection, structuring and linearization when native speakers of Czech, English and Hungarian transform thought about events to

speech; (b) it provided an important insight that regularity and systematicity of aspectual markers in the language system play a more important role in organising event information for expression than the mere availability of grammatical aspect; and (c) it also showed that crosslinguistic similarities can, to some extent, facilitate positive rethinking for speaking in L2.

Narrative discourse of basic and highly advanced learners from different source languages acquiring the same typologically distant target language provided helpful material for tracing the extent to which it is possible to reorganize one's thinking for speaking in L2. The empirical findings from the analyses of four event conceptualisation processes in two tasks across two modalities strongly indicate that native-like event conceptualisation was not attained by any of the four tested learner groups. These findings constitute evidence in favour of linguistic relativity and the Thinking for Speaking hypothesis. As temporal discourse continues to be more similar to respective L1s in both basic and highly advanced L2 production, acquisition of target-like microplanning and macroplanning principles does not seem to go hand in hand with increasing formal L2 proficiency. Persistence on L1 information organisation principles is robust. However, learners do not simply replicate what their corresponding native languages have trained them to attend to, and their acquisition is not completely eclipsed by the information organisation principles of their L1s. In addition to conceptual imports from the L1, experimenting with new segmentation, structuring as well as linearization techniques in the interlanguage is evident, and signals that some degree of rethinking for speaking in L2 does indeed occur. Yet, taken together, target-like form-function pairings with all their ramifications for temporal organisation of L2 discourse are

extremely rare, and second language learners even at advanced stages are strongly directed by their native languages to focus on those event features which their L1s readily encode and structurally highlight.

Appendix 1 Film retelling task

Overview of scenes in the presented order

PART ONE

Scene 1

Setting: street
 Participants: delivery man
 Events: delivery man sitting in car,
 filling in docket

Scene 2

Setting: street
 Participants: delivery man
 Events: delivery man sitting in car,
 putting down notepad

Scene 3

Setting: street
 Participants: delivery man
 Events: delivery man nodding head to the music,
 leaving with car from in front of house

Scene 4

Setting: lobby
 Participants: mother
 Events: mother reading note

Scene 5

Setting: living room
 Participants: grandpa, Jimmy
 Events: grandpa sitting in wheelchair,
 Jimmy playing with ball

Scene 6

Setting: living room
 Participants: grandpa, Jimmy
 Events: Jimmy running towards grandpa,
 grandpa sitting motionlessly in wheelchair

Scene 7

Setting: living room
 Participants: grandpa, Jimmy
 Events: Jimmy bounces ball against grandpa's head,
 grandpa sitting motionlessly in wheelchair

Scene 8

Setting: living room
 Participants: grandpa, Jimmy
 Events: Jimmy waving hands in front of grandpa,
 grandpa sitting motionlessly in wheelchair

Scene 9

Setting: living room
 Participants: grandpa, Jimmy
 Events: Jimmy turning around with a curious look,
 grandpa sitting motionlessly in wheelchair

Scene 10

Setting: living room
 Participants: mother
 Events: mother showing 2 parcels addressed to Jimmy

Scene 11

Setting: living room
 Participants: Jimmy, grandpa
 Events: Jimmy cheering and starting to run,
 grandpa sitting motionlessly in wheelchair

PART TWO

Scene 1

Setting: living room
 Participants: Jimmy, grandpa
 Events: Jimmy running,
 grandpa sitting motionlessly in wheelchair

Scene 2

Setting: living room
 Participants: grandpa
 Events: grandpa moving in wheelchair

Scene 3

Setting: living room
 Participants: Jimmy, mother
 Events: Jimmy cheering
 mother standing next to parcels smiling

Scene 4

Setting: living room
 Participants: Jimmy
 Events: Jimmy opening smaller parcel frantically

Scene 5

Setting: living room
 Participants: Jimmy
 Events: Jimmy finding birthday card from dad

Scene 6

Setting: living room
 Participants: Jimmy
 Events: Jimmy reading birthday card

Scene 7

Setting: living room
 Participants: Jimmy, mother
 Events: Jimmy smiling
 mother burying face in hand in despair

Scene 8

Setting: living room
 Events: electric guitar with amp revealed

PART THREE**Scene 1**

Setting: living room
 Participants: Jimmy
 Events: Jimmy putting on sunglasses

Scene 2

Setting: living room
 Participants: Jimmy
 Events: Jimmy turning plectrum with fingers

Scene 3

Setting: living room
 Participants: Jimmy
 Events: Jimmy assuming hard-rock pose, showing devil horns to mother and grinning manically

Scene 4

Setting: living room
 Participants: grandpa, mother
 Events: mother resigning and leaving living room, grandpa sitting motionlessly in wheelchair

Scene 5

Setting: living room
 Participants: Jimmy
 Events: Jimmy plugging in guitar and turning on amplifier

Scene 6

Setting: living room
 Participants: Jimmy
 Events: Jimmy strumming guitar and not hearing any sound

Scene 7

Setting: living room
 Participants: Jimmy
 Events: Jimmy turning up volume to maximum

Scene 8

Setting: living room
 Events: lights on amplifier beaming

Scene 9

Setting: living room
 Participants: Jimmy, grandpa
 Events: aerial view of Jimmy standing at amplifier, grandpa sitting motionlessly in wheelchair

Scene 10

Setting: living room
 Participants: Jimmy
 Events: Jimmy turning around from volume control, getting ready to strum and grinning

PART FOUR**Scene 1**

Setting: kitchen
 Participants: mother
 Events: mother putting down cake on kitchen table

Scene 2

Setting: kitchen
 Participants: mother
 Events: mother humming happy birthday, picking up icing bag from table and starts icing cake

Scene 3

Setting: kitchen
 Participants: mother
 Events: massive strum resonates in house, mother gets shocked and makes big chocolate splodge on cake

Scene 4

Setting: kitchen
 Participants: mother
 Events: loud music is making the kitchen shake, pots and pans falling from shelves, mother getting very angry

Scene 5

Setting: kitchen
 Participants: mother
 Events: mother getting furious and running out of kitchen with icing bag

Scene 6

Setting: living room
 Participants: mother
 Events: mother running into living room

Scene 7

Setting: living room
 Participants: mother
 Events: mother yelling at the top of her voice

PART FIVE**Scene 1**

Setting: living room
 Participants: mother
 Events: mother stops shouting and stares astounded

Scene 2

Setting: living room
 Participants: Jimmy
 Events: Jimmy cowering on the floor in shock, loud guitar solo playing

Scene 3

Setting: living room
 Participants: grandpa, Jimmy
 Events: grandpa standing and playing guitar solo, Jimmy cowering in shock at amplifier

Scene 4

Setting: living room
 Participants: grandpa
 Events: grandpa expertly playing guitar

Scene 5

Setting: living room
 Participants: grandpa, mother
 Events: grandpa gradually increasing solo intensity
 mother staring helplessly

Scene 6

Setting: living room
 Participants: grandpa
 Events: grandpa lifting plectrum
 and preparing for final chord

Scene 7

Setting: living room
 Participants: Jimmy
 Events: Jimmy sitting motionlessly on floor
 and staring in disbelief

Scene 8

Setting: living room
 Participants: mother
 Events: mother despairing, with mouth agape,
 sweat running down her face

Scene 9

Setting: living room
 Participants: Jimmy, mother, grandpa
 Events: massive sound wave blowing everyone's
 hair back

Scene 6

Setting: house from aerial view
 Events: sound explosion,
 gray smoke billowing from all windows

PART SIX**Scene 1**

Setting: living room
 Participants: grandpa
 Events: grandpa breathing a sigh of relief

Scene 2

Setting: living room
 Participants: grandpa
 Events: grandpa taking guitar off
 of his shoulder

Scene 3

Setting: living room
 Participants: Jimmy
 Events: Jimmy sitting shocked on the floor,
 wiping off his dribble

Scene 5

Setting: living room
 Participants: Jimmy
 Events: Jimmy rubbing his eyes in disbelief

Scene 6

Setting: living room
 Participants: Jimmy
 Events: Jimmy clapping his hands

Scene 7

Setting: living room
 Participants: Jimmy
 Events: Jimmy showing thumbs up and smiling

Scene 8

Setting: living room
 Participants: grandpa
 Events: grandpa putting guitar down
 and turning around to face family

Scene 9

Setting: living room
 Participants: mother
 Events: mother standing with hair in disarray
 and chocolate icing all over her face

Scene 10

Setting: living room
 Participants: grandpa
 Events: grandpa leaning guitar against amplifier

Scene 11

Setting: living room
 Participants: grandpa
 Events: grandpa lifting wheelchair

Scene 12

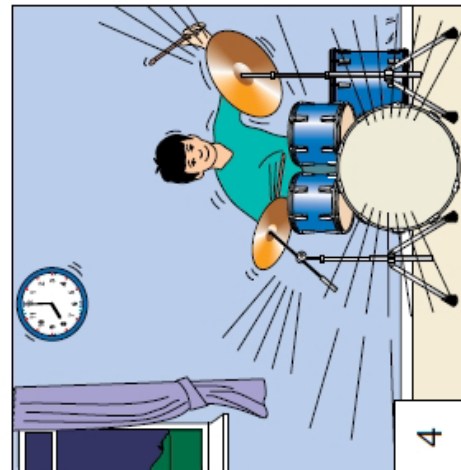
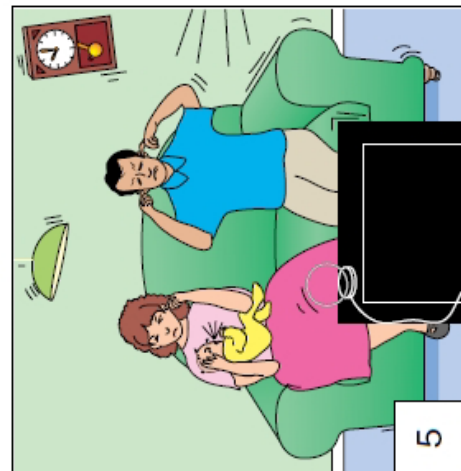
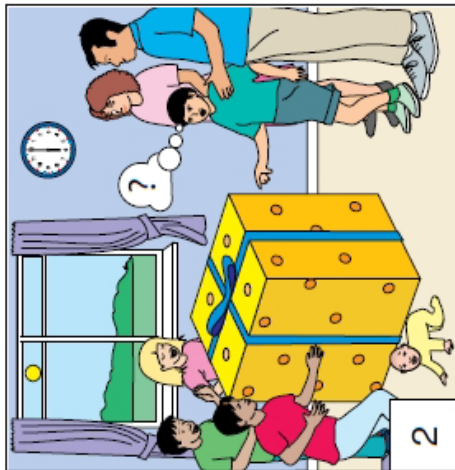
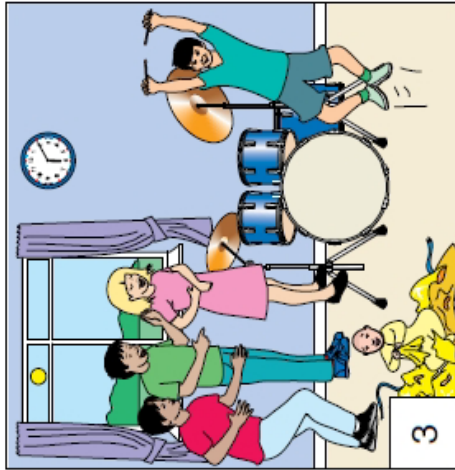
Setting: living room
 Participants: grandpa
 Events: grandpa sitting down

Scene 13

Setting: living room from aerial view
 Participants: grandpa, mother, Jimmy
 Events: grandpa sitting motionlessly in wheelchair,
 mother standing aside,
 Jimmy sitting on the floor in messy room

Appendix 2 Picture story task

Overview of scenes



Appendix 3 Participant information sheet and consent form

Please complete all questions relevant to you in block capitals and tick boxes as appropriate.

1. Today's date: _____
2. Full Name: (family name) _____ (first name) _____
3. Age: _____
4. Gender: Female Male
5. Nationality: _____
6. Mother tongue: _____
7. Linguistic origin (*which country has most influenced your language/the way you speak?*):

8. Where do you currently live? Country: _____ Town: _____
9. How many years/months have you lived there? _____
10. **EDUCATION:**
Highest qualification to date (please specify) _____
Name of school/university where currently studying: _____ State Private
What qualification are you currently studying for? _____
11. **OCCUPATION:** (*if you are currently in full or part-time employment, please give details.*)
Job Title: _____
12. **KNOWLEDGE OF OTHER LANGUAGES**
Do you speak any languages other than your mother tongue and English? YES NO
If YES, please give details:
Language: _____ Years of learning: _____
Level (tick one): beginner intermediate advanced fluent bilingual
Language: _____ Years of learning: _____
Level (tick one): beginner intermediate advanced fluent bilingual
Language: _____ Years of learning: _____

Level (tick one): beginner intermediate advanced fluent bilingual

13. At what age did you begin to learn English? _____

14. How long have you been studying English? Years: _____ Months: _____

15. Way of learning English (tick one or more boxes):

At school / foreign language school

Name of school _____ State school Private school

What English language form / class are you in?

How many hours of English classes per week?

Private English language lessons

How many years of private lessons so far?

How many hours of lessons per week?

By exposure to an English-speaking environment

Grew up / lived in an English-speaking country. Please specify: _____

One or both of my parents or relatives that live with me are native English speakers.

Please specify:

16. Why do you learn English? List in order of importance – 1,2,3,4

English is a school subject	
To enter University / other Higher Education Institution in my country	
To study in an English-speaking country	
Other, please specify: _____	

17. Do you watch English-speaking TV / films without subtitles? YES, hours per week: _____ NO

18. Do you watch English-speaking TV / films with subtitles? YES, hours per week: _____ NO

19. Do you listen to English-speaking radio / online programmes? YES, hours per week: _____ NO

20. Do you read English language books / magazines / newspapers / online texts outside school?

YES, hours per week: _____ NO

21. Have you taken any test or exam in English? YES NO If YES, please give details:

Test (e.g. CPE, PET, IELTS)	Date when test taken	Overall grade

22. Have you spent time in an English-speaking country? YES NO If YES, please give details:

Location	Duration (e.g. 2 weeks)	Purpose (e.g. holiday, language course)

23. In a typical day, what percentage of English/mother tongue/other language(s) do you speak or write?

Speaking English ____% Mother tongue ____% Other language(s) ____% Total: 100%

Writing English ____% Mother tongue ____% Other language(s) ____% Total: 100%

Thank you for taking part in this project. Your help is greatly appreciated.



**UNIVERSITY OF
CAMBRIDGE**
**Research Centre
for English and
Applied Linguistics**

English Faculty Building
9 West Road
Cambridge CB3 9DP

Telephone: 01223 767397
Fax: 01223 767398
Researcher: Norbert Vanek
Email: nv244@cam.ac.uk

CONSENT FORM

Please initial box:

1. I understand that my participation in the linguistic experiment is voluntary and that I am free to withdraw at any time, without giving any reason, without my rights being affected.
2. I understand that the experimental data that I provide today can be used in analyses, publications and teaching by the researchers specified above and that they may share the data and analyses with colleagues within the University of Cambridge and other universities. I give permission for the above specified individuals to have access to these data.
3. I confirm that I understand the information and instructions for the linguistic experiment and have had the opportunity to ask questions.
4. I agree to take part in the linguistic experiment.

Name of participant

Date

Signature

Appendix 4

Post-test: Qualitative judgement task for English native speakers

Relexified Hungarian temporal discourse organisation in English

@G:guitar_episode1

*SUI: So at the beginning a truck driver sits in a truck [c], writes something in his notebook [c], and then drives away [c]. As soon as the truck disappears [c] we see a house [c]. Later on we are already inside the house [c] and we see a mother, a boy and a grandpa on a wheelchair [c]. The little boy is playing with a balloon alone right now [c] then he bounces it against his grandpa's head [c], while grandpa sleeps in a wheelchair the whole time [c]. Later the mother appears again [c], first we only see her head, [c] and then she shows [c] that the boy received a parcel [c]. At this point the boy gets curious [c] and goes to the mother [c].

@G:guitar_episode2

*SUI: Yes then the boy gets really excited [c], and then he runs to the parcel [c]. When the boy gets to the mother [c], under the big box he discovers another parcel [c], which we couldn't see before [c]. He finds a postcard from his dad [c] who wishes him Happy Birthday [c] whereupon the mother's face turns gloomy [c]. The boy is very happy [c], and then we end up seeing a guitar with an amplifier [c].

@G:guitar_episode3

*SUI: The boy tries out the guitar [c] after he put on rock-style sunglasses [c] and got hold of the plectrum [c]. The mother buries her head in her hands [c] and leaves to the kitchen [c]. Grandpa is still in the room sitting resigned [c]. Then the boy strums a chord [c] but first he cannot hear anything [c]. Then he realises [c] that the volume is set too low [c] so then he turns the volume knob to maximum intensity [c] and then with a sinister smile he starts practicing again [c]. There is rock music playing the whole time [c].

@G:guitar_episode4

*SUI: Mother starts decorating a birthday cake [c] after she went to the kitchen [c] and she pays great attention to icing the cake properly [c]. She now writes Happy Birthday on the cake with chocolate icing [c] and suddenly the guitar starts playing [c] at which point she ruins her writing [c]. She gets really furious [c] when the spoons and pots fall from the shelves on the ground because of the massive sound wave [c]. She starts screaming [c] whereupon the noise becomes even louder [c] and the kitchen gets destroyed [c]. After this she storms out of the kitchen into the living room in a state of utter despair [c].

@G:guitar_episode5

*SUI: So after the mother leaves the kitchen [c] she starts yelling at her son [c]. But she soon finds out [c] that the one playing the guitar is the grandpa [c] who has been sitting in his wheelchair up to this point [c]. Then the boy marvels at grandpa's performance with his mouth agape [c] and mum swelters in frustration [c]. Grandpa finishes his solo [c] and he just prepares to play the last chord [c] when everyone tensely awaits [c] what will follow [c]. After that we only see the house from outside [c] as the massive noise causes an explosion [c].

@G:guitar_episode6

*SUI: After the explosion we return to the inside of the house [c] and when the boy wakes up from the state of total amazement [c] he claps his hands wildly [c]. The mother just looks on [c] her glasses slid down her nose [c]. Then grandpa puts down the guitar [c], slowly turns around [c], picks up his wheelchair [c], puts it where it was [c] sits back into it [c] as if nothing had happened [c], and returns to complete inertia like before [c]. The last shot shows the room from a bird's eye view again [c] this time there is a lot more mess scattered around the room than at the beginning [c].

Questions

1. In a few words, how would you assess the overall quality of this film-retelling?
2. Is it in any way different from your own production? Please elaborate as best you can.
3. Did you notice anything strange in it? If so, please try to specify what it was.

Post-test: Qualitative judgement task for Czech native speakers

Relexified English temporal discourse organisation in Czech

@G:guitar_episode1

*SUJ: Řidič doručovací služby si za volantem zapisuje [c]. Startuje [c], z vesela pokyvuje hlavou [c] a odjíždí [c]. V domě v přízemí slaví malý chlapec narozeniny [c], na hlavě má růžovou oslaveneckou čapku [c] a rozverně si hraje s nafukujícím balonkem [c]. Dědeček sedí na invalidním vozíku [c] a spí [c]. Okolo jsou hračky, jako například míč [c], a chlapec z rozpustilosti uhodí při hrátkách dědečka [c]. Stařík sedí bez hnutí [c]. Vracíme se do předsíně [c] a maminka volá na chlapečka [c]. Ten se ve své činnosti zastaví [c] a překvapeně zírání [c]. Maminka se ukáže v obývacím pokoji s velkým balíčkem jako dárkem k narozeninám [c]. Chlapec se svižně otočí [c] a šklebí se [c].

@G:guitar_episode2

*SUJ: Chlapec se pustí do otvírání dárku [c], rychle ho otevírá [c]. Dědeček se pohne [c]. Chlapec roztrhá papír [c] a vyndá přání k narozeninám [c]. Na něm uvidí fotku a pozdrav od tatínka z Egypta [c]. Chlapec je nadšen [c], maminka je znechucená [c] schovává si obličej v ruce [c]. Tatínek poslal elektrickou kytaru s reprákama [c].

@G:guitar_episode3

*SUJ: Chlapec se chystá výbavu vyzkoušet [c]. Vezme si trsátko [c], nasadí si červené brýle [c] a na rameno si dá kytaru [c]. Dědeček sedí apaticky v křesle [c]. Maminka znechucená odchází z pokoje [c]. Chlapec zapojí kytaru do zesilovače [c] a zapne ho [c]. Zahraje pár tónů [c], ale nic neslyší [c]. Přidá hlasitost [c], lampy na zesilovači se rozžhaví [c] a chystá se zahrát první tón [c].

G:guitar_episode4

*SUJ: Maminka je v kuchyni [c] a připravuje chlapi dort k narozeninám [c]. V poklidu si vyndá dort na tácu na stůl [c] a začne ho zdobit [c]. Přitom si brouká svojí oblíbenou písničku [c]. Jen co už má nápis skoro dopsaný [c], přerušuje ji obrovský randál [c], lekne se [c] a nepovede se jí ozdobit ten dort [c]. Začnou padat hrnce a talíře [c], a celý barák se třese [c]. Maminka začne křičet [c], úplně naštvaná vyskočí [c] a zuřivě se rozběhne [c]. Zoufalá a rozčilená se vydá sjednat pořádek [c], vstoupí do pokoje [c] a velmi hlasitě začne křičet [c].

@G:guitar_episode5

*SUJ: Matka přestane křičet [c] a vytřeští nevěřičně oči [c]. Chlapec sedí konsternovaně na zemi u komba [c] a s otevřenou pusou, brýlema na špičce nosu kouká [c]. Děda stojí s kytarou v ruce [c], perfektně jezdí po hmatníku [c] a hraje jako o život [c]. Mamince po obličejí stékají kapky potu [c]. Dědeček zvedne ruku s trsátkem vzhůru [c], napřáhne se [c] a za šokovaného pohledu maminky i dítky se chystá naposledy do strun trsátkem udeřit [c]. Zahraje vysoký tón [c] až celý dům rezonuje [c]. Vtom vidíme dům z leteckého pohledu [c], jak se z něj všemi otvory valí oblaka dýmu.

@G:guitar_episode6

*SUJ: Vracíme se do domu [c]. Děda dohraje poslední tóny [c] a tváří se spokojeně [c]. Chlapec na něho nevěřičně kouká [c] a nadšeně začne tleskat [c]. Vlasy mu stojí na hlavě [c] a obdivně zvednutými palci dědečka oceňuje [c]. Maminka, potřísněná dortem, s brýlema na půl nosu a oroseným obličejem, naštvaná a zároveň i překvapeně kouká [c]. Děda sundá kytaru z krku [c], beze slov si přistaví svoje kolečkové křeslo [c] a tiše usedá [c].

@End

Otázky:

1. Jak by jsi stručně ohodnotil celkovou kvalitu tohoto popisu událostí z videa?
2. Liší se nějakým způsobem od tvého popisu? Prosím rozved' co nejtrefněji.
3. Všiml sis na něm něčeho zvláštního? Jestli ano, prosím upřesni co konkrétně.

Post-test: Qualitative judgement task for Hungarian native speakers

Relexified English temporal discourse organisation in Hungarian

@G:guitar_episode1

*SUJ: Egy futár egy autóban ül [c] jegyzetel [c] és a rockzene egyik klasszikusa szól [c]. A futár aláírja a szállító levelet [c] és sűrű fejrázások kíséretében továbbhajt [c]. Egy házba nyerünk bepillantást [c]. Egy toloszékben ül egy viszonylag rossz egészségi állapotban lévő idősebb úr [c] valamint jelen van még egy kissrác is [c]. A kisfiú boldogan ugrál [c], egy lufival játszik [c]. Elevenítgeti a székben ülő nagypapát [c] de a nagypapa nem reagál [c]. Anyukája szól neki [c], és egy nagy csomagra mutat [c]. Egy boldog szülinapos felirat látszik [c] és a kisfiú nagyon örül [c].

@G:guitar_episode2

*SUJ: A fiú örömeiben ugrál [c]. A nagypapa felnéz [c], de aztán lógatja tovább a fejét [c]. A fiú kezd rohanni a dobozokhoz [c] és a nagy doboz mellett van egy kicsi is [c]. A kis dobozt vehemesen elkezd kibontani [c] és letépi róla a papírt [c]. Egy képet talál benne [c] és az Egyiptomban tartózkodó édesapja jókívánságait olvassa [c]. A fiú elérékenyül [c], a háttérben viszont az anyukája kevésbé boldog arcot vág [c] és fogja a fejét [c]. Az ajándék egy gitár egy hatalmas hangfállal erősítővel [c].

@G:guitar_episode3

*SUJ: A srác felvesz egy piros színű napszemüveget [c] kezébe vesz egy pengetőt is [c] és mutat egy metálvillát anyukának [c]. Anyuka csak kétségbeesve néz rá [c], legyint [c] és kimegy [c]. A nagypapa rezzenéstelen arccal ül a toloszékben [c]. A srác az erősítőhöz csatlakoztatja a gitárját [c], bekapcsolja az erősítőt [c], és a húrok közé csap [c]. A hangszer azonban nem szól [c], így a srác elkezd állítani a gitár erősítőjét [c] és feltekeri a hangerőt a maximumra [c]. Megfordul a nagypapája felé [c], széles vigyorral az arcán felemeli a kezét [c] és újra a húrokba készül csapni [c].

@G:guitar_episode4

*SUJ: Az anya a konyhában előveszi a fiának sülttortát [c], és elkezd írni rá a 'Boldog Szülinapot' feliratot [c]. Azonban iszonyathangosan megszólal a gitár [c], az anyuka elrontja a feliratot [c] és egy nagy csoki pacát csinál a tortára [c]. A fulsiketítő gitározás folytatódik [c] és az anya mérgesen elkezd kiabálni [c]. A nagy hangerő hatására a falak elkezdenek rezonálni [c] és az edények potyognak a polcokról [c]. Az anya rémülten néz [c], és majd mérhetetlenül nagy dühvel elkezd sikítani [c]. Mérgesen fut át a másik helyiségbe [c]. Berohan a szobába [c], és hisztérikus üvöltésbe tör ki [c].

@G:guitar_episode5

*SUJ: Legnagyobb meglepetésére a nagypapa játsza a kemény rockot [c]. A fiú a földön ülve hihetetlenkedik [c], anyuka pedig idegesen álmélkodik [c]. Nagypapa gitárszólózik [c], felveszi az erőspózt [c], és lassított mozdulattal készül a húrok közé csapni [c]. Az anyuka csodálkozó arccal figyel a történeteket [c] és csöpög arcáról az izzadság [c]. A hangerő hanyatt löki fiút és anyut [c], valamint nagy léghullámot kelt [c]. A ház madártávlatból látszik [c], az ablakokon és ajtókon is szél csap ki [c], és port visz [c].

@G:guitar_episode6

*SUJ: A nagypapa elégedetten leveszi nyakából a gitárt [c], és az unokájára néz [c]. A fiú próbálja magát gyorsan észhez téríteni [c], megrázza a fejét [c], felébred a kábulatból [c], és széles vigyorral a nagypapájára néz [c]. Elismerve nagyapja tehetségét ovációba tör ki [c] és büszkén mutatja felé mindkét hüvelykujját [c]. Ezután a papa az anyára néz [c]. Anya teljesen sokkolva áll [c], csak kiábrándultan néz a papára [c] és a szemüvegéről csoki folyik le [c]. Nagypapa felállítja az eldölt kerekesszéket [c], visszaül bele [c], és újra felveszi a magatehetetlen pózt [c].

Kérdések:

1. Pár szóban összefoglalva, hogy értékelnéd ki ennek a leírásnak a minőségét?
2. Eltér bármilyen módon a te saját leírásodtól? Kérlek fogalmazz minél konkrétabban.
3. Észrevettél rajta valami különösöt? És ha igen, pontosan mit?

Appendix 5 Examples of raw and coded files

Raw English file:

[EnWri14GuitarE4]

The mother is in the kitchen, preparing to ice her son's birthday cake. As she is preparing though, the noise from the guitar disturbs her, making her spoil the writing she was doing in icing. The crockery is falling to the floor and pots are banging against the wall from their fittings. All is because of the volume of the noise. She runs into the living room where her son is playing and vents her anger, screaming.

Coded English file:

(1) The mother is in the kitchen

\$T:STA:VSPP:is+in+the+kitchen
\$T:TTM:LCHO

(2) preparing to ice her son's birthday cake.

\$T:DYN:DUR:ATEL:IMPERF:MOTO:preparing+to+ice
\$T:TTM:LCHO:SIM

(3) As she is preparing though,

\$T:TCS:REG:as
\$T:DYN:DUR:ATEL:IMPERF:MOTO:is+preparing
\$T:TTM:LCHO:SIM

(4) the noise from the guitar disturbs her,

\$T:DYN:PUN:TEL:AMB:disturbs
\$T:TTA:LCHO:SIM

(5) making her spoil the writing

\$T:DYN:PUN:TEL:AMB:making+her+spoil
\$T:TTS:LCHO:CSQ

(6) she was doing in icing.

\$T:DYN:DUR:ATEL:IMPERF:MOTO:was+doing
\$T:TTA:LNOC:TAC:PRESPvsPASTP

(7) The crockery is falling from the shelves

\$T:DYN:DUR:ATEL:IMPERF:MOTN:is+falling
\$T:TTM:LCHO:CSQ

(8) and pots are banging against the wall.

\$T:TCC:X:and
\$T:DYN:DUR:ATEL:IMPERF:MOTO:are+banging+against+the+wall
\$T:TTM:LCHO:SIM

(9) All is because of the volume of the noise.

\$T:STA:is+because+of+the+volume
\$T:TTM:LCHO:SIM

(10) She runs into the living room

\$T:DYN:DUR:TEL:AMB:MOTR:runs+into+the+living+room
\$T:TTA:LCHO:CSQ

(11) where her son is playing

\$T:DYN:DUR:ATEL:IMPERF:MOTO:is+playing

§T:TTM:LCHO:SIM

(12) and vents her anger, screaming.

§T:TCC:X:and

§T:DYN:DUR:TEL:AMB:vents

§T:TTA:LCHO:CSQ

Raw Czech file:

[CzWri14GuitarE4]

Maminka je v kuchyni a připravuje chlapci dort k narozeninám, v poklidu si vyndá dort na tácu na stůl a začne ho zdobit. Přitom si brouká svojí oblíbenou písničku. Jen co už má skoro dopsaný nápis na dortu HAPPY BIRTH..., vtom slyší strašný rámus, začnou vypadávat hrnce a talíře ze skříněk, chlapec zahrál svůj první hlasitý tón na kytaru. Začne na chlapce křičet, on ale nic neslyší. Zuřivě běží do obývacího pokoje. Jen co doběhla do obývacího pokoje, málem upadla, jak ji nervy brnkaly v hlavě.

Coded Czech file:

(1) Maminka je v kuchyni

§T:STA:VSPP:je+v+kuchyni

§T:TTM:LCHO

(2) a připravuje chlapci dort k narozeninám,

§T:TCC:X:a

§T:DYN:DUR:ATEL:IMPERF:MOTO:připravuje

§T:TTM:LCHO:SIM

(3) v poklidu si vyndá dort na tácu na stůl

§T:DYN:PUN:TEL:PERF:MOTRM:si+vyndá+na+stůl

§T:TTM:LCHO:SIM

(4) a začne ho zdobit.

§T:TCC:X:a

§T:DYN:DUR:ATEL:VTALB:MOTO:začne+zdobit

§T:TTA:LCHO:CSQ

(5) Přitom si brouká svojí oblíbenou písničku.

§T:TSIM:Přitom

§T:DYN:DUR:ATEL:IMPERF:si+brouká

§T:TTM:LCHO:SIM

(6) Jen co už má skoro dopsaný nápis na dortu HAPPY BIRTH...,

§T:TCS:POS:Jen+co

§T:STA:VSPP:má+skoro+dopsaný+nápis

§T:TTS:LCHO:CSQ

(7) vtom slyší strašný rámus,

§T:TPOST:vtom

§T:STA:PER:slyší

§T:TTS:LCHO:CSQ

(8) začnou vypadávat hrnce a talíře ze skříněk,

§T:DYN:DUR:ATEL:VTALB:MOTO:začnou+vypadávat

§T:TTM:LCHO:SIM

- (9) chlapec zahrál svůj první hlasitý tón na kytaru.
 \$T:DYN:PUN:TEL:PERF:MOTO: zahrál
 \$T:TTA:LNOC:TAC:PRESIMPERFvsPASTPERF
- (10) Začne na chlapce křičet,
 \$T:DYN:DUR:ATEL:VTALB: Začne+křičet
 \$T:TTM:LCHO:SIM
- (11) on ale nic neslyší.
 \$T:STA:NEG: nic+neslyší
 \$T:TTM:LCHO
- (12) Zuřivě běží do obýváku.
 \$T:DYN:DUR:TEL:IMPERF:MOTRL:běží+do+obýváku
 \$T:TTM:LCHO:SIM
- (13) Jen co doběhla do obýváku,
 \$T:TCS:POS: Jen+co
 \$T:DYN:DUR:TEL:PERF:MOTRM: doběhla+do+obýváku
 \$T:TTS:LCHO:CSQ
- (14) málem upadla,
 \$T:DYN:DUR:TEL:PERF:MOTNM: málem+upadla
 \$T:TTS:LCHO:CSQ
- (15) jak ji nervy brnkaly v hlavě.
 \$T:STA:VPER: nervy+brnkaly
 \$T:TTM:LCHO:SIM

Raw Hungarian file:

[HuWri10GuitarE4]

Az anya a konyhában előveszi a fiának sütött tortát és boldogan elkezd ráírni a 'Boldog Szülinapot' feliratot. Azonban mielőtt befejezné, megszólal a gitár hangja, és az anyuka elrontja a feliratot. Ekkor az anya mérgesen kiabál a fiának, de az csak egyre jobban gitározik. És a nagy hangerő hatására elkezdnek az edények lepotyogni a polcokról, és összetörnek. Az először rémülten néz, majd mérhetetlenül nagy dühvel elkezd üvöltöni fiával először a konyhából, majd mivel a fiú nem reagál semmit, kimegy a szobába, és tovább ordít a fiának.

Coded Hungarian file:

- (1) Az anya a konyhában előveszi a fiának sütött tortát,
 \$T:DYN:DUR:TEL:PERF:MOTRO: előveszi
 \$T:TTS:LCHO:CSQ
- (2) és boldogan elkezd ráírni a 'Boldog Szülinapot' feliratot.
 \$T:DYN:DUR:TEL:VTALB:MOTRM: elkezd+ráírni
 \$T:TTM:LCHO:SIM
- (3) Azonban mielőtt befejezné,
 \$T:TANT:mielőtt
 \$T:MOD: befejezné
 \$T:TTA:LNOC:STADV:BEF
- (4) megszólal a gitár hangja,
 \$T:DYN:PUN:TEL:PERF: megszólal
 \$T:TTS:LCHO:CSQ

(5) és az anyuka elrontja a feliratot.

\$T:TCC:X:és
\$T:DYN:PUN:TEL:PERF:MOTO:elrontja
\$T:TTS:LCHO:CSQ

(6) Ekkor az anya mérgesen kiabál a fiának,

\$T:TSIM:Ekkor
\$T:DYN:DUR:ATEL:AMB:kiabál
\$T:TTS:LCHO:CSQ

(7) de az csak egyre jobban gitározik.

\$T:DYN:DUR:ATEL:VTACON:MOTO:egyre+jobban+gitározik
\$T:TTM:LCHO:SIM

(8) És a nagy hangerő hatására elkezdenek az edények lepotyogni a polcokról,

\$T:TCC:X:És
\$T:DYN:DUR:TEL:VTALB:MOTO: elkezdenek+lepotyogni
\$T:TTA:LCHO:CSQ

(9) és összetörnek.

\$T:TCC:X:és
\$T:DYN:PUN:TEL:PERF:MOTO:összetörnek
\$T:TTA:LCHO:CSQ

(10) Az először rémulten néz,

\$T:TPUN:először
\$T:DYN:DUR:ATEL:AMB:néz
\$T:TTA:LCHO:CSQ

(11) majd mérhetetlenül nagy dühvel elkezd üvöltöni fiával először a konyhából,

\$T:TPOST:majd
\$T:DYN:DUR:ATEL:VTALB:elkezd+üvöltöni
\$T:TTS:LCHO:CSQ

(12) majd mivel a fiú nem reagál semmit,

\$T:TPOST:majd
\$T:DYN:NEG:nem+reagál
\$T:TTS:LCHO:CSQ

(13) kimegy a szobába,

\$T:DYN:DUR:TEL:PERF:MOTRM:kimegy+a+szobába
\$T:TTA:LCHO:CSQ

(14) és tovább ordít a fiának.

\$T:DYN:DUR:ATEL:VTACON:tovább+ordít
\$T:TTM:LCHO:CSQ

Bibliography

- Abrahamsson, N. and Hyltenstam, K. (2009). Age of L2 acquisition and the degree of nativelikeness: Listener perception versus linguistic scrutiny. *Language Learning*, 59, 249–306.
- Adjemian, C. (1977). On the nature of interlanguage systems. *Language Learning* 26:2, 297–320.
- Allan, D. (2004). *Oxford Placement Test 2*. Oxford: Oxford University Press.
- Allen, S., Özyürek, A., Kita, S., Brown, A., Furman, R., Ishizuka, T. and Fujii, M. (2007). Language-specific and universal influences in children's syntactic packaging of Manner and Path: A comparison of English, Japanese, and Turkish, *Cognition*, 102, 16–48.
- Andersen, R. W. (1991). Developmental sequences: the emergence of aspect marking in second language acquisition. In T. Huebner and C. Ferguson (eds) *Crosscurrents in second language acquisition and linguistic theories*, 305–324. Amsterdam: Benjamins.
- Andersen, R. W. (1978). An implicational model for second language research. *Language Learning*, 28, 221–282.
- Andersen, R. W. and Shirai, Y. (1996). The primacy of aspect in first and second language acquisition: The pidgin-creole connection. In W. Ritchie and T. Bhatia (eds) *Handbook of Second Language Acquisition*, 527–570. San Diego: Academic Press.
- Andersen, R. W. and Shirai, Y. (1994). Discourse motivations for some cognitive acquisition principles. *Studies in Second Language Acquisition*, 16, 133–156.

- Athanasopoulos, P. and Kasai, C. (2011). Effects of second language on cognition in English users of L2 Japanese. *Vigo International Journal of Applied Linguistics*, 8, 13–27.
- Athanasopoulos, P. and Kasai, C. (2008). Language and thought in bilinguals: The case of grammatical number and nonverbal classification preferences. *Applied Psycholinguistics*, 29, 105–121.
- Bardovi-Harlig, K. (2000). *Tense and Aspect in Second Language Acquisition*. Oxford: Blackwell.
- Bardovi-Harlig, K. (1998). Narrative structure and lexical aspect: Conspiring factors in second language acquisition of tense–aspect morphology. *Studies in Second Language Acquisition*, 20, 471–508.
- Bardovi-Harlig, K. and Reynolds, D. W. (1995). The role of lexical aspect in the acquisition of tense and aspect. *TESOL Quarterly*, 29, 107–131.
- Bardovi-Harlig, K. (1994a). Reverse–order reports and the acquisition of tense: Beyond the principle of chronological order. *Language learning*, 44, 243–282.
- Bardovi-Harlig, K. (1994b). Anecdote or evidence? Evaluating support for hypotheses concerning the development of tense and aspect. In Tarone, E., Gass, S. M. and Cohen A. D. (eds) *Research methodology in second language acquisition*, 41–60. Hillsdale: Erlbaum.
- Bardovi-Harlig, K. (1992). The relationship of form and meaning: A cross-sectional study of tense and aspect in the interlanguage of learners of English as a second language. *Applied Psycholinguistics*, 13, 253–278.

- Berman, R. and Slobin, D. (1994). *Relating Events in Narrative: A Crosslinguistic Developmental Study*. NJ, Hillsdale: Lawrence Erlbaum Associates.
- Binnick, R. (1991). *Time and the Verb: a Guide to Tense and Aspect*. New York: Oxford University Press.
- Bohnenmeyer, J., Enfield, N. J., Essegbey, J., and Kita, S. (2011). The macro-event property: The segmentation of causal chains. In J. Bohnemeyer, and E. Pederson (eds) *Event representation in language and cognition*, 43–67. New York: CUP.
- Bohnenmeyer, J. (2009). Temporal anaphora in a tenseless language. In W. Klein and P. Li (eds) *The expression of time in language*, 83–128. Berlin: Mouton de Gruyter.
- Bohnenmeyer, J., Eisenbeiss, S. and Narasimhan, B. (2006). Ways to go: Methodological considerations in Whorfian studies on motion events. *Essex Research Reports in Linguistics*, 50, 1-20.
- Boroditsky, L., Schmidt, L., and Phillips, W. (2003). Sex, Syntax, and Semantics. In D. Gentner and S. Goldin-Meadow (eds) *Language in Mind: Advances in the study of Language and Cognition*, 61–80. Cambridge, MA: MIT Press.
- Boroditsky, L. (2001). Does language shape thought? Mandarin and English speakers' conceptions of time. *Cognitive Psychology*, 43, 1–22.
- Bowerman, M. and Choi, S. (2003). Space under Construction: Language-Specific Spatial Categorization in First Language Acquisition. In Gentner, D. and S. Goldin-Meadow (eds) *Language in Mind: Advances in the study of language and thought*, 387–427. Cambridge, MA: MIT Press.

- Bowerman, M., and Levinson, S. C. (eds) (2001). *Language Acquisition and Conceptual Development*. Cambridge: CUP.
- British National Corpus*, version 3 (BNC XML Edition). (2007). Distributed by Oxford University Computing Services on behalf of the BNC Consortium.
URL: <http://www.natcorp.ox.ac.uk/>
- Brown, R. (1973). *A First Language: The Early Stages*. London: Allen and Unwin.
- Bybee, J., Perkins, R. and Pagliuca, W. (1994). *The evolution of grammar: tense, aspect, and modality in the languages of the world*. Chicago: The University of Chicago Press.
- Bylund, E. (2011a). Language-specific patterns in event conceptualization: Insights from bilingualism. In A. Pavlenko (ed.) *Thinking and Speaking in Two Languages*, 108–141. Clevedon: Multilingual Matters.
- Bylund, E. (2011b). Ultimate attainment of event segmentation and temporal structuring patterns in speakers of L2 Swedish. *Vigo International Journal of Applied Linguistics*, 8, 29–53.
- Bylund, E. (2011c). Segmentation and temporal structuring of events in early Spanish-Swedish bilinguals. *International Journal of Bilingualism*, 15, 86–54.
- Bylund, E. and Jarvis, S. (2011). L2 effects on L1 event conceptualization. *Bilingualism: Language and Cognition*, 14, 47–59.
- Cadierno, T. (2004). Expressing motion events in a second language: A cognitive typological perspective. In M. Achard and S. Niemeier (eds) *Cognitive Linguistics, Second Language Acquisition and Foreign Language Teaching*, 13–49. Berlin: de Gruyter.

- Carroll, M. and Lambert, M. (2003). Information structure in narratives and the role of grammaticised knowledge: A study of adult French and German learners of English. In Ch. Dimroth and M. Starren (eds) *Information Structure and the Dynamics of Language Acquisition*, 267–287. Amsterdam: John Benjamins.
- Carroll, M. and von Stutterheim, Ch. (2003). Typology and information organisation: Perspective taking and language-specific effects in the construal of events. In A. G. Ramat (ed.) *Typology and Second Language Acquisition*, 365–402. Berlin: Mouton de Gruyter.
- Carroll, M., von Stutterheim, Ch. and Nüse, R. (2004). The language and thought debate: a psycholinguistic approach. In C. Habel and T. Pechmann (eds) *Multidisciplinary Approaches to Language Production*, 183–218. Berlin: Mouton de Gruyter.
- Carroll, M., Murcia-Serra, J., Watorek, M. and Bendiscoli, A. (2000). The relevance of information organization to second language acquisition studies : The descriptive discourse of advanced adult learners of German. *Studies in Second Language Acquisition*, 22 (3), 441-466.
- Chafe, W. (1987). Cognitive constraints on information flow. In R. Tomlin (ed.) *Coherence and grounding in discourse*, 21–52. Amsterdam: Benjamins.
- Choi, S., and Bowerman, M. (1991). Learning to express motion events in English and Korean: the influence of language-specific lexicalization patterns. *Cognition*, 41, 83–121.
- Csirmaz, A. (2004). Perfective and imperfective in Hungarian: (In)visible differences. In S. Blaho, L. Vicente and M. de Vos (eds) *Proceedings of*

- Console XII.*, University of Leiden. Presented at Console XII. Patras, Greece, December 12–14, 2003.
- Clark, E.V. (1971). On the acquisition of the meaning of Before and After. *Journal of Verbal Learning and Verbal Behaviour*, 10, 266–275.
- Comrie, B. (1985). *Tense*. Cambridge: CUP.
- Comrie, B. (1976). *Aspect: An Introduction to the Study of the Verbal Aspect and Related Problems*. Cambridge: CUP.
- Council of Europe (2001). *Common European Framework of Reference for Languages: Learning, Teaching, Assessment*. Cambridge: CUP.
- Crystal, D. (2003). *A Dictionary of Linguistics and Phonetics*. Oxford: Blackwell.
- Český národní korpus – SYN2006PUB [Czech national corpus]. (2006). Ústav Českého národního korpusu FF UK, Praha. URL: <http://www.korpus.cz>
- Deutscher, G. (2010). *Through the Language Glass: How Words Colour your World*. London: Heinemann.
- Dietrich, R., Klein, W. and Noyau, C. (1995). *The acquisition of temporality in a second language*. Amsterdam/Philadelphia: Benjamins.
- Dittmar, N. and Von Stutterheim, Ch. (1985). On the discourse of immigrant workers: interethnic communication and communication strategies. In T. van Dijk (ed.). *Handbook of Discourse Analysis*, Vol. 4, 125–152. London: Academic Press.
- Dittmar, N. (1981). On the verbal organisation of L2 tense marking in an elicited translation task by Spanish immigrants in Germany. *Studies in Second Language Acquisition*, 3, 136–164.
- Dodge, E. and Lakoff, G. (2005). Image schemas: from linguistic analysis to neural grounding. In B. Hampe and J. Grady (eds) *From Perception to*

Meaning: Image Schemas in Cognitive Linguistics, 57–91. Berlin: de Gruyter.

Dry, H. (1983). The movement of narrative time. *Journal of literary semantics*, 12, 19–53.

Dulay, H. C. and Burt, M. K. (1973). Should we teach children syntax? *Language Learning*, 23, 245–258.

Dulay, H. C. and Burt, M. K. (1974). Natural sequences in child second language acquisition *Language Learning*, 24, 37–53.

Ellis, N. C. (2008). Usage-based and form-focused language acquisition: The associative learning of constructions, learned attention, and the limited L2 endstate. In P. Robinson and N. Ellis (eds) *Handbook of Cognitive Linguistics and Second Language Acquisition*, 372–405. New York/London: Routledge.

Ellis, N. C. (2002). Frequency effects in language acquisition: A review with implications for theories of implicit and explicit language acquisition. *Studies in Second Language Acquisition*, 24, 143–188.

Evans, N. and Levinson, S. (2009). The myth of language universals: Language diversity and its importance for cognitive science. *Behavioral and Brain Sciences*, 32 (5), 429–492.

Favart, M. and Passerault, J. M. (2009). Acquisition of relations between the conceptual and linguistic dimensions of linearization in descriptive text composition in grades five to nine: A comparison with oral production. *British Journal of Educational Psychology*, 79, 107–130.

- Flashner, V. E. (1989). Transfer of aspect in the English oral narratives of native Russian speakers. In H. Dechert and M. Raupach (eds) *Transfer in Language Production*, 71–97. Norwood, NJ: Ablex.
- Filip, H. and Carlson, G. (1997). Sui Generis Genericity. Proceedings of the Twenty–First Annual Penn Linguistics Colloquium. *Penn Working Papers in Linguistics*, Vol.4, 91–110. Philadelphia: University of Pennsylvania.
- Filipović, L. (2007). *Talking about Motion: A Crosslinguistic Investigation of Lexicalization Patterns*. Amsterdam/Philadelphia: John Benjamins.
- Flecken, M. (2011). Event conceptualization by early bilinguals: Insights from linguistic as well as eye tracking data. *Bilingualism: Language and Cognition*, 14 (1), 61–77.
- Flecken, M. (2010). *Event Conceptualization in Language Production in Early Bilinguals*. Utrecht: LOT Dissertation Series 256.
- Fodor, J. A. (1975). *The Language of Thought*. New York: Crowell.
- Genari, S., Sloman, S., Malt, B. and Fitch, W. T. (2002). Motion events in language and cognition. *Cognition*, 83, 49–79.
- Gentner, D. and Goldin–Meadow, S. (2003). *Language in Mind: Advances in the Study of Language and Thought*. Cambridge, MA: MIT Press.
- Giacolone Ramat, A. (1992). Grammaticalization processes in the area of temporal and modal relations. *Studies in Second Language Acquisition*, 14, 297–322.
- Gotteri, N. and Michalak–Gray, J. (1997). *Polish*. London: Teach Yourself.

- Grice, H.P. (1989). *Studies in the Way of Words*. Harvard University Press.
- Grosjean, F. (1998). Studying bilingualism: methodological and conceptual issues. *Bilingualism: Language and Cognition*, 1, 131–149.
- Gumperz, J. and S. Levinson (1996). Introduction: Linguistic relativity re-examined. In J. Gumperz and S. Levinson (eds) *Rethinking Linguistic Relativity*, 1–20. Cambridge: CUP.
- Habel, C. and Tape, H. (1999). Processes of segmentation and linearization in describing events. In R. Klabunde and Ch. von Steutterheim (eds) *Processes in Language Production*, 117–153. Wiesbaden: Deutscher Universitätsverlag.
- Habets, B., Jansma, B. and Münte, T. (2008). Neurophysiological correlates of linearization in language production. *BMC Neuroscience*, 9, 77. doi:10.1186/1471-22029-77
- Han, Zh. and Cadierno, T. (eds) (2010). *Linguistic Relativity in SLA. Thinking for Speaking*. Clevedon, UK: Multilingual Matters.
- Hart, W. and Albarracín, D. (2009). What I was doing versus what I did: Verb aspect influences memory and future actions. *Psychological Science*, 20, 238–244.
- Haspelmath, M. (1997). *From Space to Time. Temporal Adverbials in the Worlds Languages*. München/New Castle: LINCOM Europa.
- Hendriks, H., Hickmann, M. and Demagny, A. (2008). How English native speakers learn to express caused motion in English and French. *Acquisition et Interaction en Langue Étrangère*, 27, 15–41.

- Hickmann, M. and Hendriks, H. (2006). Static and dynamic location in French and English. *First Language*, 26 (1), 103–135.
- Hickmann, M., Hendriks, H., Roland, F. and Liang, J. (1994). *The Development of Reference to Person, Time and Space in Discourse: a Coding Manual*. Nijmegen: MPI.
- Hohenstein, J., Eisenberg, A. and Naigles, L. (2006). Is he floating across or crossing afloat? Cross–influence of L1 and L2 in Spanish–English bilingual adults. *Bilingualism: Language and Cognition*, 9 (3), 249–261.
- Hopper, J. (1979). Aspect and foregrounding in discourse. In T. Givón (ed.), *Syntax and semantics: Discourse and syntax*, 213–241. New York: Academic Press.
- Huddleston, R. and Pullum, G. (2002). *The Cambridge Grammar of the English Language*. Cambridge: CUP.
- Hyltenstam, K. and Abrahamsson, N. (2012). High–level L2 acquisition, learning and use. *Studies in Second Language Acquisition*, 34, 177–186.
- Iverson, P., Kuhl, P., Akhane–Yamada, R., Dietsch, E., Tohkura Y., Kettermann, A., Siebert C. (2003). A perceptual interference account of acquisition difficulties for non–native phenomena, *Cognition*, 87. B47–B57.
- Jakobson, R. (1959). Boas's view of grammatical meaning. *American Anthropologist*, 61, 139–145.
- Jarvis, S. and Pavlenko, A. (2008). *Crosslinguistic influence in language and cognition*. New York: Routledge.
- Karlík, P., Nekula, M. and Rusínová, Z. (1995). *Příruční mluvnice češtiny*. Praha: Nakladatelství Lidové Noviny.

- Kellerman, E. and van Hoof, A. (2003). Manual accents. *International Review of Applied Linguistics*, 41, 251–269.
- Kiefer, F. and Bakró–Nagy, M. (2006). *Magyar nyelv*. Budapest: Akadémiai kiadó.
- Klein, W. (2009a). Concepts of time. In W. Klein and P. Li (eds) *The Expression of Time*, 5–38. Berlin: Mouton de Gruyter.
- Klein, W. (2009b). How time is encoded. In W. Klein and P. Li (eds) *The Expression of Time*, 39–82. Berlin: Mouton de Gruyter.
- Klein, W. and Perdue, C. (1997). The Basic Variety. Or: Couldn't natural languages be much simpler? *Second Language Research*, 13 (4), 301–347.
- Klein, W. (1995). A time–relational analysis of Russian aspect. *Language*, 71, 669–695.
- Klein, W. (1994). *Time in Language*. London: Routledge.
- Klein, W. and Perdue, C. (1992). *Utterance structure: Developing grammars again*. Amsterdam: Benjamins.
- Klein, W. and von Stutterheim, C. (1987). Quaestio und referentielle Bewegung in Erzählungen. *Linguistische Berichte*, 109, 163–183.
- Klein, W. (1984). *Second Language Acquisition*. Cambridge: CUP
- Kumpf, L. (1984). Temporal systems and universality in interlanguage: A case study. In F. Eckman, L. Bell and D. Nelson (eds) *Universals of second language acquisition*, 132–143. Rowley: Newbury House.
- Lado, R. (1957). *Linguistics Across Cultures: Applied Linguistics for Language Teachers*. Ann Arbor: University of Michigan Press.
- Lakusta, L. and Landau, B. (2005). Starting at the end: The importance of goals in spatial language. *Cognition*, 96, 1–33.

- Langacker, R. (2000). *Grammar and Conceptualization*. Berlin: Mouton De Gruyter.
- Lenneberg, E. (1967). *Biological Foundations of Language*. New York: Wiley.
- Levelt, W. (1999). Producing spoken language: A blueprint of the speaker. In Brown, C. and Hagoort, P. (eds) *The Neurocognition of Language*, 83–120. Oxford: Oxford University Press.
- Levelt, W. (1989). *Speaking: From Intention to Articulation*. Cambridge, MA: MIT Press.
- Levelt, W. (1982). Linearization in describing spatial networks. In S. Peters and E. Saarinen (eds) *Processes, Beliefs and Questions*, 199–220. Dordrecht: Reidel.
- Levelt, W. (1981). The speaker's linearization problem. *Philosophical Transactions of the Royal Society. Biological Sciences*. B295, 305–315.
- Levison, S. (2003). *Space in Language and Cognition: Explorations in Cognitive Diversity*. Cambridge: CUP.
- Levinson, S. (2000). *Presumptive Meanings. The Theory of Generalized Conversational Implicature*. Cambridge, MA: MIT Press
- Li, P. and Gleitman, L. (2002). Turning the tables: Language and spatial reasoning. *Cognition*, 83 (3), 265–294.
- Lucy, J. (1996). The scope of linguistic relativity: An analysis and review of empirical research. In J. Gumperz and S. Levinson (eds) *Rethinking Linguistic Relativity*, 177–202. Cambridge: CUP.
- Lucy, J. (1992). *Language Diversity and Thought: A Reformulation of the Linguistic Relativity Hypothesis*. Cambridge: CUP.

- MacWhinney, B. (2009). The CHILDES Project Part 1: The CHAT Transcription Format. *Department of Psychology*. Paper 181. URL: <http://repository.cmu.edu/psychology/181>
- Magyar Nemzeti Szövegtár* [Hungarian national corpus]. (2006). Magyar Tudományos Akadémia, Nyelvtudományi Intézet, Budapest. URL: <http://corpus.nytud.hu/mnsz/>
- Marinova–Todd, S. H. (2003). *Comprehensive Analysis of Ultimate Attainment in Adult Second Language Acquisition*. Unpublished doctoral dissertation. Harvard University, Massachusetts.
- Montrul, S. and Slabakova, R. (2003). Competence similarities between native and near-native speakers. An investigation of the preterite/imperfect contrast in Spanish. *Studies in Second Language Acquisition*, 25, 351–398.
- Noyau, C., de Lorenzo, C., Kihlstedt, M., Paprocka, U., Sanz Espinar, G. and Schneider, R. (2005). Two dimensions of the representation of complex event structures: granularity and condensation. Towards a typology of textual production in L1 and L2. In H. Hendriks (ed.) *The Structure of Learner Varieties*, 157–201. Berlin/New York: Mouton de Gruyter.
- Ochsenbauer, A. K. (in press). *The Impact of Language-specific Factors in First Language Acquisition: The Expression of Motion in French and German*. Studies on Language Acquisition Series. Berlin: Mouton de Gruyter.
- Odlin, T. (2010). Conclusion: On the interdependence of conceptual transfer and relativity studies. In Zh. Han and T. Cadierno (eds) *Linguistic Relativity in L2 Acquisition: Evidence of L1 Thinking for Speaking*, 183–194. Clevedon: Multilingual Matters.

- Odlin, T. (2008). Conceptual transfer and meaning extensions. In P. Robinson and N. Ellis (eds) *Handbook of Cognitive Linguistics and Second Language Acquisition*, 306–340. New York/London: Routledge.
- Odlin, T. (2005). Cross–Linguistic Influence and Conceptual Transfer: What are the Concepts? *Annual Review of Applied Linguistics*, 25, 3–25.
- Papafragou, A., Hulbert, J. and Trueswell, J. (2008). Does language guide event perception? Evidence from eye–movements. *Cognition*, 108, 155–184.
- Pavlenko, A. (2011). Thinking and speaking in two languages: Overview of the Field. In A. Pavlenko (ed.) *Thinking and Speaking in Two Languages*, 237–257. Clevedon: Multilingual Matters.
- Pavlenko, A. (2003). ‘I feel clumsy speaking Russian’: L2 influence on L1 in narratives of Russian L2 users of English. In Cook, V. (ed) *Effects of the second language on the first*, 32–61. Clevedon, UK: Multilingual Matters.
- Pinker, S. (2007). *The Stuff of Thought: Language as a Window into Human Nature*. New York: Penguin.
- Pinker, S. (1994). *The Language Instinct: How the Mind Creates Language*. New York: Morrow.
- Quirk, R., Greenbaum, S., Leech, G., and Svartvik, J. (1985). *A comprehensive grammar of the English language*. London: Longman.
- Reinhart, T. (1984). Principles of gestalt perception in the temporal organisation of narrative texts. *Linguistics*, 22: 779–809.
- Robinson, R. (1990). The primacy of aspect: Aspectual marking in English interlanguage. *Studies in Second Language Acquisition*, 12, 315–330.
- Schank, R. C. and Abelson, R. (1977). *Scripts, plans, goals and understanding*. Hillsdale, NJ: Lawrence Erlbaum Associates Inc.

- Schmiedtová, B., von Stutterheim, Ch. and Carroll, M. (2011). Language-specific patterns in event construal of advanced second language speakers. In A. Pavlenko (ed.) *Thinking and Speaking in Two Languages*, 66–107. Clevedon: Multilingual Matters.
- Schmiedtová, B. and M. Flecken (2008). The role of aspectual distinctions in event encoding: Implications for second language acquisition. In S. de Knop and T. de Rycker (eds) *Cognitive Approaches to Pedagogical Grammar*, 357–384. Berlin: Mouton de Gruyter.
- Schmiedtová, B. and Sahonenko, N. (2008). Die Rolle des grammatischen Aspekts in Ereignis–Enkodierung: Ein Vergleich zwischen tschechischen und russischen Lernern des Deutschen. In P. Grommes and M. Walter (eds) *Fortgeschrittene Lernervarietäten: Korpuslinguistik und Zweitspracherwerbs–forschung*, 45–71. Linguistische Arbeiten. Tübingen: Niemeyer.
- Schmiedtová, B. (2004). *At the same time: The expression of simultaneity in learner varieties*. [Studies on language acquisition 28]. Berlin/New York: Mouton de Gruyter.
- Schumann, J. (1987). The expression of temporality in basilectal speech. *Studies in Second Language Acquisition*, 9, 21–41.
- Shirai, Y. and Andersen, R. W. (1995). The acquisition of tense-aspect morphology. *Language*, 71, 743:762.
- Shirai, Y. (1998). The emergence of tense-aspect morphology in Japanese: Universal predisposition? *First Language*, 18, 281–309.

- Senft, G. (2010). The Speaker's Linearization Problem in a Cross-cultural/Cross-linguistic perspective. Outline of a 'Categories' subproject. Unpublished material. MPI Nijmegen.
- Selinker, L. (1972), Interlanguage. *International Review of Applied Linguistics*, 10, 209–241.
- Selinker, L. & Douglas, D. (1985). Wrestling with 'context' in interlanguage theory. *Applied Linguistics*, 6, 190–204.
- Skiba, R. and Dittmar, N. (1992). Pragmatic, semantic and syntactic constraints and grammaticalization: A longitudinal perspective. *Studies in Second Language Acquisition*, 14, 323–349.
- Slobin, D. (2003). Language and thought online: Cognitive consequences of linguistic relativity. In D. Genter and S. Goldin-Meadow (eds) *Language in Mind. Advances in the Study of Language and Thought*, 157–191. Cambridge MA: MIT Press.
- Slobin, D. (1996). From “thought and language” to “thinking for speaking”. In J. Gumperz and S. Levinson (eds) *Rethinking Linguistic Relativity*, 70–96. Cambridge: CUP.
- Slobin, D. (1987). Thinking for speaking. *Proceedings of the Berkeley Linguistics Society*, 13, 435–444.
- Smith, C. (1997). *The Parameter of Aspect*. Dordrecht: Kluwer.
- Starren, M. (2001). *The Second Time: The Acquisition of Temporality in Dutch and French as a Second Language*. Utrecht: LOT Dissertation Series 50.
- Stevenson, J. and Pollitt, C. (1987). The acquisition of temporal terms. *Journal of Child Language*, 14, 533–545.

- Talmy, L. (1988). Force dynamics in language and cognition. *Cognitive Science*, 12 (1), 49–100.
- Talmy, L. (1985). Lexicalization Patterns: Semantic structure in lexical forms. In T. Shopen (ed.) *Language Typology and syntactic Description. Grammatical Categories and the Lexicon*, 57–149. Cambridge: CUP.
- Tarone, E. (1979). Interlanguage as chameleon. *Language Learning*, 29:1, 181–191.
- Tarone, E. (1983). On the variability of interlanguage systems. *Applied Linguistics*, 4:2, 142–163.
- Tesnière, L. (1966). *Eléments de syntaxe structurale* (2nd ed.). Paris: Librairie C. Klincksieck (Original work published 1959).
- Van Boxtel, S., Bongaerts, T. and Coppen, P. A. (2005). Native-like attainment of dummy subjects in Dutch and the role of L1. *International Review of Applied Linguistics*, 43, 355–380.
- Van Ierland, S. (2010). *Grammatical Features Influencing Information Structure: The Case of L1 and L2 Dutch and English*. Utrecht: LOT Dissertation Series 245.
- Vanek, N. (2012). Language-specific perspectives in reference to time in the discourse of Czech, English and Hungarian speakers. In L. Filipović and K. M. Jaszczolt (eds) *Space and Time in Languages and Cultures 1: Linguistic Diversity*, 135–156. Amsterdam: John Benjamins. Human Cognitive Processing Series 36.
- Van Patten, B. and Williams, J. (2007). *Theories in Second Language Acquisition: An Introduction*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Vendler, Z. (1957). Verbs and times. *The Philosophical Review*, 66, 143–160.

- Von Humboldt, W. (1836) *Über die Verschiedenheit des menschlichen Sprachbaues und ihren Einfluss auf die geistige Entwicklung des Menschengeschlechts* (Abhandlungen der Akademie der Wissenschaften zu Berlin). Berlin: Dümmlers Verlag. Reprinted (1960) Bonn: Dümmlers Verlag; English translation by P. Heath (1988). *On language: The Diversity of Human Language Structure and its Influence on the Mental Development of Mankind*. Cambridge: CUP.
- Von Stutterheim, Ch., Carroll, M., Flecken, M. and Schiedtová, B. (in press). How grammaticized concepts shape event conceptualization in the early stages of language production: Insights from linguistic analysis, eye tracking data and memory performance. *Linguistics*.
- Von Stutterheim, Ch., Bouhaous, A., Carroll, M., Sahonenko, N. (2012). Grammaticalized temporal categories, language specificity, and macroplanning in expository texts. *Linguistics*, 50 (2), 341–371.
- Von Stutterheim, Ch. and Carroll M. (2006). The impact of grammaticalised temporal categories on ultimate attainment in advanced L2–acquisition. In H. Byrnes (ed.) *Educating for advanced foreign language capacities: constructs, curriculum, instruction, assessment*, 40–53. Washington: Georgetown University Press.
- Von Stutterheim, Ch. and Lambert, M. (2005). Cross–linguistic analysis of temporal perspectives in text production. In H. Hendriks (ed.) *The Structure of Learner Varieties*, 203–230. Berlin/New York: Mouton de Gruyter.
- Von Stutterheim, Ch. (2003). Linguistic structure and information organisation. The case of very advanced learners. In S. Foster–Cohen and S. Pekarek–

- Doehler (eds) *EUROSLA Yearbook 3*, 183–206. Amsterdam: John Benjamins.
- Von Stutterheim, Ch. and Nüse, R. (2003). Processes of conceptualisation in language production: Language-specific perspectives and event construal. *Linguistics: An Interdisciplinary Journal of the Language Sciences*, 41 (5), 851–881.
- Von Stutterheim, Ch., Nüse, R. and Murcia Serra, J. (2002). Crosslinguistic differences in the conceptualisation of events. In B. Behrens, C. Fabricius–Hansen and S. Johansson (eds) *Information Structure in a Cross-linguistic Perspective*, 179–198. Amsterdam: Rodopi.
- Von Stutterheim, Ch. (1991). Narrative and description: Temporal reference in second language acquisition. In T. Huebner and C. Ferguson (eds) *Crosscurrents in Second Language Acquisition and Linguistic Theories*, 385–403. Amsterdam: Benjamins.
- Von Stutterheim, Ch. and Klein, W. (1989). Referential movement in descriptive and narrative discourse. In R. Dietrich and C. Graumann (eds) *Language Processing in Social Context*, 39–76. Amsterdam/New York/Oxford/Tokyo: North Holland Elsevier.
- Von Stutterheim, C. and Klein, W. (1987). A concept-oriented approach to second language studies. In C. W. Pfaff (ed.) *First and second language acquisition processes*, 191–205. Cambridge, MA: Newbury House.
- Weist, R. M. (1986). Tense and aspect. In Fletcher, P. and Garman, M. (eds) *Language acquisition: Studies in first language development*, 356–374. Cambridge: CUP.

Whorf, B. L. (1956). Language, thought and reality. In J. B. Carroll (ed.) *Selected Writings of Benjamin Lee Whorf*. Cambridge, MA: MIT Press.