At the same time…

The expression of simultaneity in learner varieties

At the same time...
The expression of simultaneity in learner varieties

een wetenschappelijke proeve
op het gebied van Letteren

Proefschrift

ter verkrijging van de graad van doctor
aan de Radboud Universiteit Nijmegen
op gezag van de Rector Magnificus Prof. dr. C.W.P.M. Blom,
volgens besluit van het College van Decanen
in het openbaar te verdedigen
op maandag 15 november 2004
des namiddags om 1.30 uur precies

door

Barbara Schmiedtová

geboren op 13 mei 1974 te Ústí nad Labem (Tsjechische Republiek)

Promotores: Prof. dr. Stephen C. Levinson

Prof. dr. Wolfgang Klein
(MPI for Psycholinguistics Nijmegen)

Co-promotor: Dr. Christine Dimroth
(MPI for Psycholinguistics Nijmegen)

Manuscriptcommissie:

Prof. dr. Roeland v. Hout
Prof. dr. Peter Jordans (Vrije Universiteit Amsterdam)
Prof. dr. Clive Perdue (Université Paris 8)

In memory of my grandma Růžena Vítková
and for my parents

ACKNOWLEDGEMENTS

TABLE OF CONTENTS

CHAPTER 4

CHAPTER 5

CHAPTER 6

CHAPTER 7

CHAPTER 8

CHAPTER 9

ABBREVIATIONS

Acc	Accusative	Past	Past tense
Adv	Adverbial	Perf	Perfective
Am-contr	*Am*-construction	Perf-D	Perfective aspect - derived
Aux	Auxiliary		
Conn	Connective	Perf-S	Perfective aspect - simplex
Dat	Dative	Pl	Plural
Fem	Feminine	PP	Prepositional phrase
Fut	Future tense	Pref	Prefix
Gen	Genitive	Prep	Preposition
Hab	Habitual	Pres	Present tense
Idenf	Indefinite article	Refl	Reflexive
Imperf	Imperfective	Sg	Singular
Imperf-D	Imperfective aspect - derived	Sim	Simultaneity
		SS	Source state
Imperf-S	Imperfective aspect - simplex	Temp	Temporal
Incl	Inclusion	TS	Target state
Inf	Infinitive	TSit	Time of Situation
Ins	Instrumental	TT	Topic time
Iter	Iterative	TU	Time of utterance
Loc	Locative	Voc	Vocative
Mas	Masculine		
Neg	Negation		
Neu	Neutral	#	Odd reading
Nom	Nominative	*	Agrammatical reading
Over	Overlap	≈	Approximately

SIMULTANEITY IN NATIVE SPEAKER AND LEARNER LANGUAGE

CHAPTER 1

1.1 Introduction

Imagine talking to somebody. At the same time, you are walking down the street, looking at people, cars and into shop windows. How would you later describe your activities to a friend? Would it seem relevant to you to mention that you were walking down the street while talking to another person? Probably only, if the combination of these activities would have resulted in you bumping into a street lamp. By contrast, in a situation where people are talking on the phone, it would be somehow odd and superfluous to explicitly stress that they are speaking with each other.

It is obvious that many (if not most) things around us take place simultaneously and that our brain is fully capable of processing them in such a way that we are able to think and talk about them.

It is less obvious under which circumstances simultaneity is overtly marked and how exactly this is done in various languages. It is even less clear how second language learners acquire the devices and the conditions of usage for temporal simultaneity in a target language. In fact, given that the acquisition of temporality is a prominent and well explored subject in second language acquisition, it is surprising that the acquisition of simultaneity has been neglected thus far.

A lot of research has been done on the language acquisition of sequential temporal ordering (Bailey et al. 1974, von Stutterheim 1991, Klein 1993/1994, Starren 2001 and others) but there is only one paper investigating temporal simultaneity (Buczowska & Weist 1991). This situation is reflected in the following comment by Bardovi-Harlig (2000: 416):

> One likely direction for further research in the meaning oriented approach is to investigate additional semantic concepts. [...] These include habituality, iterativity, simultaneity, and durativity.

This almost exclusive focus on the acquisition of linear order might be due to the fact that spoken and written languages are linear in nature. Therefore, it seems plausible to assume that the default strategy when narrating is to retell what is happening in terms of individual sequences, chronologically. It takes a special linguistic effort to mark simultaneity. That is, to mark simultaneity overtly means violating *The Principle of Natural Order* (PNO), which says that in the normal case, events are reported in the order in which they occurred (see for example Labov 1972, Clark 1974, von Stutterheim & Klein 1987).

This study deals with the expression of simultaneity by adult English and German learners of Czech. Since these learners already have mastered a language, they should not experience conceptual problems with the underlying notion of simultaneity. But the three languages characteristically differ in the way in which temporal relations and simultaneity in particular are encoded. They all use various devices to this end. The most important of these are:

(a)   grammatical categories of the verb, e.g., tense, and more importantly, aspect[1],

(b)   phase verb constructions, e.g. *to begin to, to continue to,*

(c)   various types of temporal adverbials, including temporal subordinate clauses, e.g. *while*, *during*, *at the same time*.

All three languages are quite similar with respect to (b) and (c), although there is a number of subtle differences, to be discussed in chapter 3. Moreover, the mere fact that they all possess constructions of this type does not say very much about their role in the expression of simultaneity. Questions that might arise here are: (i) under which conditions are these constructions used? or (ii) how do they interact with each other (for more detail, see chapter 3)?

The situation is more complicated with respect to (a). All three languages mark *tense* on the verb, although the Czech system is less elaborate than the English or German one; there exists, for instance, no counterpart to the pluperfect. The most fundamental difference, however, is found in aspect (for a more detailed

---

[1] Through out this study, the term aspect refers to grammatical aspect. In other words, I only regard aspectual marking expressed by inflectional morphology marked onto the verb. The German term Aktionsart, on the other hand, is synonymous with the so-called lexical aspect that is inherently conveyed by verbal semantics.

survey, see chapter 3): English has a very regular grammaticalized aspectual system, whereas German does not. That is, German can convey aspect by lexical devices (such as temporal adverbials and periphrastic constructions), but there are no devices available systematically expressing grammatical aspect. Czech like English, has grammaticalized aspect; in fact, like all Slavic languages, it is traditionally considered to be "aspect-dominant". But the precise way in which aspectual distinctions are morphologically marked in Czech differs considerably from English. While English only employs the suffix –*ing* (e.g. walk vs. walk-*ing*), Czech uses prefixes (e.g. *pře*-dat 'to hand over') as well as suffixes (e.g. pře-dá-*va*-t 'to be handing over'; křik-*nou*-t 'to scream out once'). Additionally, Czech makes use of suppletive forms (*vzít* vs. *brát* 'to take' vs. 'to be taking'). In some cases, prefixes only change the grammatical aspect of the verb (e.g. vařit vs. *u*-vařit 'to cook' vs. 'to finish cooking'); but most of the time, a change in aspect goes hand in hand with a modification of the Aktionsart (e.g. *dát* 'to give' vs. *pře*-dat 'to hand over'), a feature that is quite characteristic of Slavic aspect in general. Hence, unlike English grammatical aspect, Czech aspect has a lexical as well as a grammatical side.

There is a third interesting asymmetry. In Czech, the morphologically simple form is usually imperfective, and perfective forms are derived. In English, the morphologically simple form is perfective, and the imperfective form is derived. Hence, there is a difference in what one might consider to be the "unmarked" aspect.

These differences and similarities, which I will elaborate on in greater detail in chapter 3, allow for a number of interesting research questions, such as:

> (1) Is it easier for English learners than for German learners to use Czech aspect in the expression of simultaneity? This seems a natural assumption: after all, they are used to the idea of marking temporality by aspect.

> (2) Are English learners misled by the differences in the way in which aspect is marked? It may well be that German learners, though not familiar with the idea of grammaticalized aspect, have a less biased view of this device. Hence, the apparent advantage of English learners might turn out to be a disadvantage.

(3) How do these categories interact with temporal adverbials when a complex narrative task, in which the expression of simultaneity is crucial, has to be solved? German learners, for example, might have a preference for using adverbials when it is important to mark the precise temporal relationship between two situations.

These and a number of closely related questions have guided the present study. It will be shown that the grammaticalized devices for expressing simultaneity in the source language play a major role when acquiring simultaneity in the target language (cf. Andersen 1983, Kellerman 1995 and others). Although the resemblance between the source and target language can initially give rise to a more target-like performance, this might be misleading at later stages of acquisition (cf. Kihlstedt, 2002).

Before we move to the next section, a few words regarding the data analysis methods and general research strategy. I adopted a qualitative (descriptive) as well as quantitative (statistical) analysis for this purpose. The idea was the following: on the basis of a detailed descriptive analysis, interesting details could appear that may not otherwise have been detected by means of a statistical analysis. These qualitative details often reveal important, subtle differences between groups as well as differences between the performance of individual speakers. Even if there were no statistically significant findings, they would still contain important information about a speaker's linguistic preference and behavior. Quantitative statistical analyses, on the other hand, are used in the present investigation in order to support generalizations proposed on the basis of the qualitative data analyses. In other words, statistics is applied in order to confirm significant results representing general pattern in the data. This study attempts to reach a synthesis by making complementary use of both analysis types. For this reason, quantitative findings as well as linguistically important details will be reported.

An elicitation task was employed as the general research strategy. As will be made clear in chapter 2, it is primarily under special experimental conditions that speakers mark simultaneity explicitly. Based on the selection of the three investigated languages, two learner (English and German) and three native speaker groups (Czech, English, and German) participated in the experiment providing narrations of several short movie clips. The English and German learner and native group consisted of the same subjects that retold the movie in the target language as well as in the respective source language.

1.2 Organization of the study

This study consists of nine chapters and is divided into a theoretical part (chapters 1 through 3), and an experimental part (chapters 4 through 9).

The present chapter has outlined the rationale of this study and explained what the general research questions are. Furthermore, the first chapter provides the initial set of motivations for studying temporal simultaneity and explains the selection criteria for the three juxtaposed languages. Most relevant were in this respect the cross-linguistic differences in the aspectual domain. For an initial overview, consider table 1.1 (for more detail, see chapter 3):

	grammati-calized imperfetive	grammati-calized perfective	past perfect	present perfect	future perfect
English	+	−	+	+	+
German	−	−	+	±	+
Czech	+	+	−	−	−

pure aspectual marking   combination of tense & aspectual marking

Table 1.1   Expression of aspect: comparison between English, German and Czech

Chapter 2 is dedicated to the notion of simultaneity, and different subtypes of overlapping events. First, the definition of simultaneity adopted in this study is given. Then, the five simultaneity types are introduced. Next, I focus on the split between explicit and implicit simultaneity marking and explain in detail how to distinguish between explicit temporal and atemporal devices. This categorization is crucial for understanding the differences between learners as well as native speakers examined in this study. The last section of chapter 2 addresses some central assumptions related to the general analysis of temporality, especially of aspect. In line with Klein (1994), a time-relational analysis of temporality is adopted. This approach makes it possible to analyze aspect as a relation between two time intervals, shedding new light on the study of the Czech aspectual system.

Together with some parts of chapter 2, chapter 3 represents the theoretical backbone of the research project. In chapter 3, the wide range of explicit

Together with some parts of chapter 2, chapter 3 represents the theoretical backbone of the research project. In chapter 3, the wide range of explicit linguistic devices used in Czech, English, and German for the expression of simultaneity is explored. On the basis of various examples, I discuss the crucial differences between explicit temporal and atemporal devices and also demonstrate the variation in usage by native speakers of the investigated languages. The conclusion sets the stage for chapter 3 where the motivation for selecting Czech, English, and German as investigated languages become apparent. In addition to an comprehensive account of explicit linguistic means employed by the three languages for the expression of simultaneity, chapter 3 also includes a brief description of how aspect is expressed in each investigated language.

Chapter 4 is the first chapter addressing experimental issues and outlines the task used for the elicitation of temporal simultaneity. This involves a description of the stimulus material and the task procedure. Since overtly expressed simultaneity in spontaneous discourse is rather rare, data were elicited using a set of commercials where simultaneity was essential to the plot of the story. The task was a narration of all stimuli in the source and in the target language in such a way that a person who had not watched the movie would understand its essence. In the next part, information about the subjects that participated in this study is provided. Furthermore, the way in which the proficiency levels of the learners in this study were determined is explained in detail. A description of an exemplary learner is given for each level of proficiency. Further, I summarize the repertoire of linguistic devices and abilities that learners at a particular level of proficiency exhibited at the point the experiment was conducted.

Chapter 5 is devoted to issues connected with data collection and data coding. A great deal of attention is paid to outlining the logic behind the coding procedure for all variables. The stimuli employed in this study will be introduced and illustrated with several examples. Relevant information regarding the procedure of the elicitation experiment will be also provided.

In Chapters 6 and 7, the results are presented. Chapter 6 concentrates on explicit expression of simultaneity by Czech, English, and German native speakers. The general use of explicit marking is discussed. Then I examine the use of explicit temporal and atemporal means by each individual group. My

general aim is to highlight the differences and similarities native speakers exhibit when marking simultaneity in their respective native languages.

Chapter 7 describes learners' strategies for expressing simultaneity in Czech. I discuss the general use of explicit marking and explore the employment of explicit temporal and atemporal devices. The focus here is to find out whether or not learners differ from the Czech native group, but also from their own performances in their respective source languages. After establishing the main differences between learners, these differences will be examined at each level of proficiency.

Since the use of aspectual devices is central for the expression of simultaneity by Czech native speakers in their own language, Chapter 8 deals with the acquisition of aspect. I compare the Czech native group to both learner groups and suggest several explanations for the differences between the native and the learner groups.

Chapter 9 is the concluding chapter of this thesis. In the first part, the results presented in the two previous chapters will be recapitulated. In the second part, those findings that contribute to our understanding of the acquisition of temporality in a second language are highlighted.

1.3 Summary

In this chapter, the rationale for the present study has been outlined. In essence, the study deals with the acquisition of simultaneity by second language learners of Czech. The focal point is placed on temporal simultaneity for two reasons:

(1) Although simultaneity represents a basic temporal concept, it has received far less attention than another basic temporal concept – sequential order. This holds true for second and to a certain degree also for first language acquisition.

(2) From a linguistic point of view, simultaneity expresses a temporal relation between two situations, and thus belongs to the temporality domain. Second language acquisition research has repeatedly shown that the acquisition of temporality is particularly intricate for second language learners. This observation makes the study of temporal simultaneity an interesting and challenging topic.

A further aim of chapter 1 is to explain the initial motivation for comparing Czech, English, and German in this investigation. The most relevant linguistic

devices have been presented that are commonly used for the expression of simultaneity in all three languages (for a more detail description, see chapter 3). The languages crucially differ in the way they express and/or grammaticalize aspect.

The study attempts a detailed and systematic classification of simultaneity expressions in three languages. Further, a survey of how simultaneity is expressed by native speakers in their own language is presented. Using real production data as a baseline rather than relying on (often normative) descriptions found in grammar books when comparing subjects and subject groups, conclusions were drawn about the actual employment of linguistic marking for the expression of simultaneity.

On the basis of the findings, I shall attempt to answer the questions of how native speakers express temporal simultaneity in the three languages, and how learners at different levels of proficiency deal with this situation under experimental test conditions. Furthermore, the results of this investigation could shed new light on our understanding of aspect in general, and on its acquisition by adult learners.

THE NOTION SIMULTANEITY AND ITS CATEGORIZATION

In this chapter, I bring in several abstract notions that are pertinent in the context of temporal simultaneity. In this way, I first define the notion of temporal simultaneity adopted for this investigation and introduce five simultaneity types. Then, we focus on the classification split between explicit and implicit expressions of simultaneity and explain the differences between explicit temporal and atemporal means. Finally, I turn to the domain of temporality analysis and briefly introduce Klein's time-relational framework (1994) employed for the analysis of aspect. Aspect is a crucial device used by English and Czech native speakers as well as second language learners for the expression of simultaneity. The overall goal of this chapter is to supply the reader with relevant terminology and underlying views, which - as the part of the theoretical approach - are applied and presupposed throughout the study.

2.1 The notion of simultaneity

The following definition of simultaneity is used in this study:

> If two situations[1] are simultaneous they must have a common subinterval on the time axis. Temporal boundaries need not coincide.

This definition includes all types of temporal overlap or inclusion and every possible relatum. Various constellations are possible[2], as illustrated in Figure 2.1[3].

---

[1] Following Comrie (1976), the term *situation* is used as a neutral form for events, processes, activities, states.

[2] Of course, there are additional ordering possibilities, especially with regard to the order of the two time intervals involved in simultaneity, however, this is not covered in this study. Which of the two time intervals comes first or second might, nevertheless, play a role; for example in the overall organization of the information discourse structure (i.e. event-time structure).

[3] Also see similar conceptualizations in Kamp and Reyle (1993).

(a)

Total simultaneity
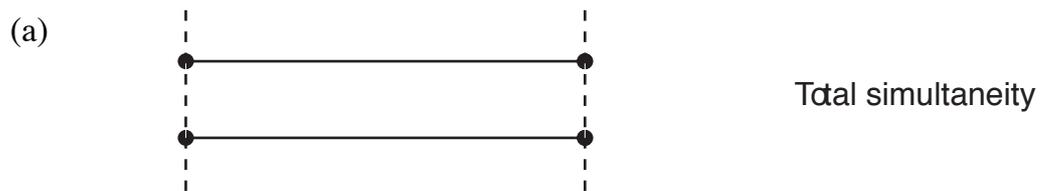
Maria walked through the door. At the same moment, Hans looked up.

(b)

Simultaneity - overlap

While Hans studied in Berlin, Maria was working in Italy.

(c)

Simultaneity - inclusion
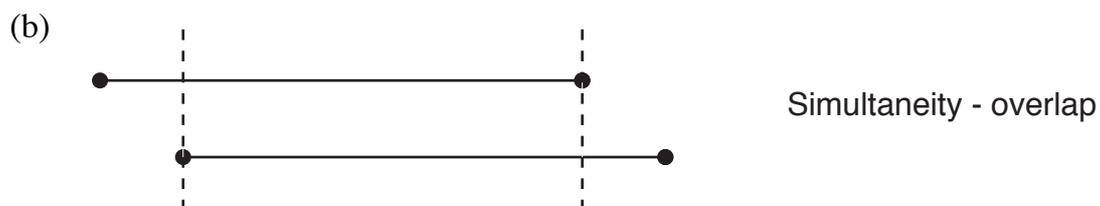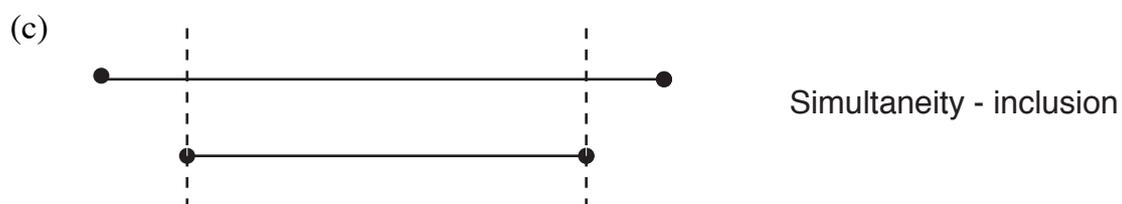
Maria was reading a book, Hans came into the room.

(d)

Simultaneity - final boundary
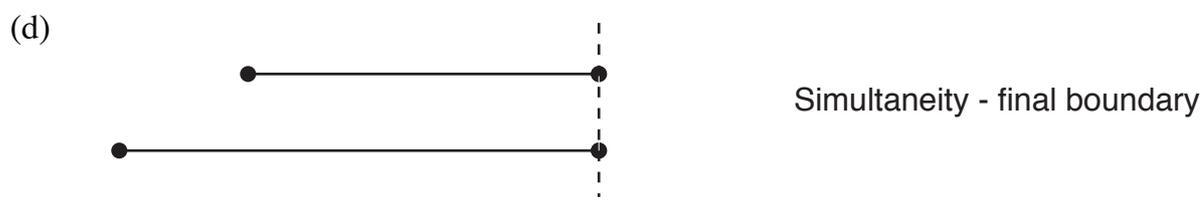
Maria will wait until Hans has finished cooking.

(e)

Simultaneity - initial boundary
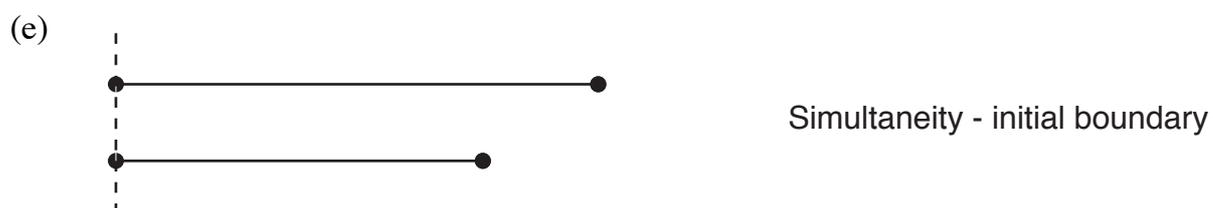
Just as Peter was coming into the room, Mary began to open the window.

Figure 2.1   Simultaneity types

Simultaneity types represented in figures (a) through (e) all occur in reality although total simultaneity does not occur very frequently. It has been shown that Czech, English and German (native) speakers can perceive and

linguistically express all simultaneity types (Munro & Wales 1982, Schmiedtová & Gretsch, 2002)[4].

In the present study, the term temporal simultaneity includes all types of simultaneity. In other words, I do not focus on the linguistic expression of each individual type but rather on the expression of simultaneity in general. The five simultaneity types, however, are considered when examining the potential influence of a stimulus on the choice of linguistic devices used for expressing simultaneity.

As far as second language acquisition is concerned, the assumption is that a second language learner does not need to acquire the conceptual distinctions of these simultaneity types because this has already been mastered in the acquisitional process of the first language. However, a learner might be confronted with the fact that the linguistic devices for expressing simultaneity and/or their combination in the source language and in the target language differ considerably. Finding out more about these differences and the role they play in second language acquisition is the goal of this study.

2.2 The categorization of simultaneity

For the purpose of systematic categorization and analysis of data, a distinction is made between explicit and implicit expressions of simultaneity. The fundamental difference between these two categories is that explicit means express simultaneity in text or speech OVERTLY whereas implicit means do not[5]. Extra-linguistic knowledge, for instance, can convey simultaneity implicitly. Consider the following example[6]:

---

[4] So far, only two other languages (Bohnemeyer 1998a, 2002 for Yucatek and German) have been examined with respect to the number of simultaneity types. It could very well be that other languages differentiate between more or less than five simultaneity types. For this reason, I leave open the question whether these temporal representations are also valid in other languages and cultures.

[5] The distinction between implicit and explicit simultaneity expressions corresponds to the distinction between pragmatics and semantics that is often made in linguistics (cf. Levinson (2000), Sperber & Wilson (1986)).

[6] Example provided by Wolfgang Klein.

(2.1)   A string trio was performing last night.
        Jane played cello, Peter played violin, and Jake played viola.

First, we have to assume that Jane, Peter, and Jake are members of the same string trio. Hence, it is not the case that they performed after the string trio performed. That is, we are presupposing the speaker is being cooperative and relevant. Second, because of our world knowledge about members of musical ensembles performing at the same time, the only plausible reading of this example is that the events of playing individual instruments took place simultaneously and not in a sequence. This is the truth although no overt indication is given that the default sequential reading granted by the Principle of Natural Order should be violated. On the contrary, it would be odd to mark simultaneity explicitly using, for example, an adverbial phrase as in (2.2):

(2.2)   A string trio was performing last night. *While* Jane was playing cello, Peter played violin and *at the same time* Jake played viola.

As a matter of fact, contextual clues in general are considered to play a major role in expressing simultaneity implicitly. In other words, an implicit expression of simultaneity depends on a vast number of factors and is therefore very difficult to categorize in a systematic way (for more detail, see section 2.2.2). An explicit expression, on the other hand, conveys simultaneity directly without relying on any other factors. Consider the next example:

(2.3)   *While* Peter was playing violin, Jane fell asleep.

Example (2.3) demonstrates the use of the subordinate connective *while* that signals temporal simultaneity between the playing-violin-event and the falling-asleep-event. Note that the simultaneous interpretation is not only direct but also unambiguous.

The split between explicit and implicit simultaneity expressions is illustrated in figure 2.2. Since implicit devices are non-overt, they do not mark simultaneity but rather implicate it. Explicit devices, by contrast, are overt and therefore mark, rather than implicate simultaneity.

```
┌─────────────────────────────────────┐
│     Expressions of simultaneity      │
└─────────────────────────────────────┘
                   │
          ┌────────┴────────┐
          │                 │
┌──────────────┐     ┌──────────────┐
│   explicit   │     │   implicit   │
└──────────────┘     └──────────────┘
```
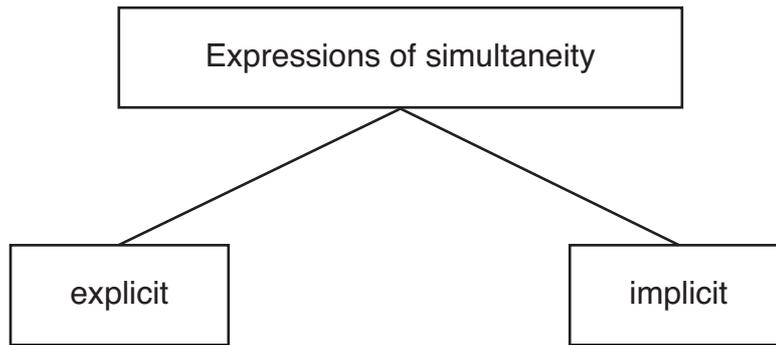
Figure 2.2   Explicit vs. implicit expressions of simultaneity

Despite the existence of an entire subdiscipline devoted to discussing implicitness (pragmatics), marking of implicit simultaneity expression is *not* the focus of the present study and is only briefly discussed in 2.2.2. The main interest of this investigation is the use of explicit simultaneity marking. Within this domain, further distinctions are made between explicit temporal devices and explicit atemporal devices. Both types mark simultaneity overtly but they differ in the way they do so.

In the first instance, I will concentrate on the difference between explicit temporal and explicit atemporal devices and discuss examples. In a second step, I will briefly outline under what circumstances an implicit simultaneity expression appears.

2.2.1 Explicit simultaneity

Simultaneity is expressed by explicit temporal means if there is a linguistic device present in an utterance which lexically, morphologically and/or syntactically marks that two events are simultaneous. The interpretation of simultaneity is a part of the meaning of such a linguistic item. That is, the temporal interpretation of these devices is regularly simultaneous. Explicit temporal devices mark two situations as simultaneous in an unambiguous way. In other words, the only reading in such a context is the simultaneous one. Temporal adverbials such as *at the same time*, *währenddessen* are good examples of explicit marking devices.

Simultaneity can also be overtly marked and conveyed by explicit atemporal means. These linguistic devices do not carry temporal information per se but they can be used as overt markers for temporal simultaneity. Explicit atemporal devices are highly dependent on context and are affected by pragmatic factors. In other words, a simultaneous reading of these items is not derived from the

expression alone (as is the case for explicit temporal devices) but interactively with the given context and implicit devices. Consider figure 2.3:
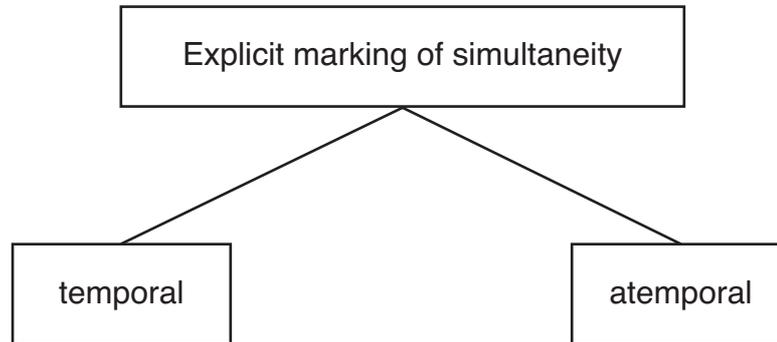
Figure 2.3   Explicit marking of simultaneity: temporal vs. atemporal

Spatial expressions, for example, represent explicit atemporal means that can be used for expressing temporal simultaneity.

(2.4)   A woman and a man were locked *in one and the same room.* He memorized a poem. She solved a mathematical problem.

In example (2.4), temporal specification is achieved via a spatial expression. This example can be paraphrased as: During the time when a man and a woman were locked in one and the same room, the man memorized a poem *while* the woman solved a mathematical problem. In other words, the event of memorizing a poem and the event of solving a math problem are included in one time interval during which the protagonists were locked in the same room. Further, this interpretation is supported by the general knowledge that sharing the same space can result in temporal simultaneity (for a detailed discussion, see chapter 3, section 3.5.1). There are other explicit atemporal devices such as anaphors that will be discussed later in chapter 3.

Figure 2.4 illustrates the split between explicit temporal and explicit atemporal means and the interaction of the latter with implicit means (represented by a dashed line). Theoretically, explicit temporal devices can also interact with implicit devices. However, implicit means do not affect their temporal interpretation. Explicit atemporal devices, in contrast, are directly affected by implicit means. Further, explicit atemporal devices and implicit means share the same interpretational mechanisms when expressing simultaneity.

```
            ┌──────────────────────────────┐
            │  Expressions of simultaneity  │
            └──────────────────────────────┘
                   /              \
          ┌────────────┐      ┌────────────┐
          │  explicit  │      │  implicit  │
          └────────────┘      └────────────┘
            /        \              ┊
   ┌────────────┐ ┌────────────┐    ┊
   │  temporal  │ │  atemporal │◄┄┄┄┘
   └────────────┘ └────────────┘
```
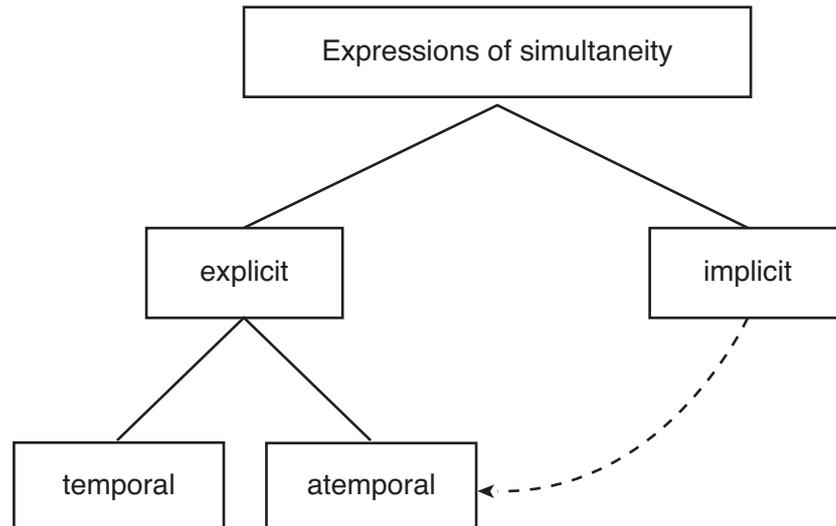
Figure 2.4   Interaction of explicit atemporal devices with implicit devices

Another important difference between explicit temporal and explicit atemporal devices is their position in text. Intrinsically, explicit temporal means are found directly at the location where simultaneity is expressed; e.g., connecting two clauses, which are in a simultaneous relation. For narrative discourse, the discourse type investigated in the present study, the following holds true: In order to maintain a simultaneous interpretation in a sentence, a simultaneity marker must be used. Otherwise, the narration flow will follow the Principle of Natural Order, which implies a temporal sequence in narrative discourse.[7]

Explicit atemporal means, on the other hand, are not positioned at any specific location in the discourse. For example, a spatial expression is introduced right at the onset of a narrative (*John drove to Cologne and in the car he spoke to his friend*). On the basis of this spatio-temporal introduction, all subsequent events relating to either of the two introduced protagonists will automatically be interpreted as included in the same time interval (*His friend ate some sandwiches. John told jokes.*)[8]. This temporal frame will be preserved until an overt spatio-temporal shift is marked, e.g. *In Cologne he went straight to the library* (for more detail, see chapter 3, section 3.5).

---

[7] Note that in non-narrative discourse, other criteria may be of importance for structuring temporal order.

[8] Note that the degree of simultaneity is not further specified. In other words, they can partially overlap as well as include each other or follow each other. In the last case, the degree of simultaneity equals zero, hence sequentiality is expressed.

The boundaries between the explicit temporal and explicit atemporal domain are not strict. For example, there are atemporal devices such as verbs of perception that signal simultaneity without any additional contextual clues. In the sentence *Mary sees John eating*, simultaneity is expressed by the fact that Mary and John are in the same space.[9] Temporal simultaneity is then conveyed by the overlap of the event of watching (Mary) and the event of eating (John)[10]. Compared with spatial expressions or discourse, perception verbs express simultaneity independently. The two former items are dependent on context and other linguistic devices for expressing temporal simultaneity (cf. chapter 3, section 3.5).

When comparing explicit atemporal means such as perception verbs (to see) to explicit temporal means such as temporal adverbials (at the same time), a qualitative difference can be noticed. The latter signals simultaneity more directly than the former. In other words, temporal adverbials such as *at the same time* unambiguously mark that two events are simultaneous without any additional clues whereas verbs of perception only imply this fact. The simultaneous reading is not communicated by any other element than the semantics of the verb *to see* (see also in chapter 3, section 3.5.2.1). Moreover, the mere use of a perception verb is not necessarily associated with the simultaneity of two events in the normal case (e.g. one person seeing another does not mean that the two persons see each other at the same time). In the normal case, the opposite is valid for explicit temporal devices practically designed for the purpose of expressing simultaneity.

The degree of explicitness varies not only between the two domains - temporal and atemporal - but also within each domain, i.e., atemporal devices where the strongest explicit effect can be observed in verbs of perception.

There are also some variances in the explicit temporal means investigated in this study. Aspectual marking (verbal inflection) differs from lexical devices (e.g. adverbials) and constructions (e.g. idioms). Only in certain grammaticalized constellations (aspectual contrast or aspectual juxtaposition),

---

[9] I am aware of the fact that in general perception verbs are able to take gerundial complements. I will discuss this issue, which is very relevant for the expression of simultaneity, in chapter 3, section 3.5.2.1.

[10] Of course, this interpretation is restricted only to direct personal perception excluding video/film readings, etc.

do aspectual markers signal simultaneity. It would be wrong to claim that the presence of aspectual marking regularly implies a simultaneous interpretation. It is rather the case that one of the functions of aspectual marking is to express simultaneity (in an explicit manner). Temporal adverbials of the type *at the same time* denote simultaneity exclusively. In other words, their sole function is to express temporal simultaneity.

On the basis of these observations, the following refined figure emerges:

```
            ┌──────────────────────────────────────────┐
            │            EXPLICIT:                     │
            │  Overtly marked expression of simultaneity│
            └──────────────────────────────────────────┘
                     /                    \
┌──────────────────────────────┊──────────────────────────────┐
│        TEMPORAL:             ┊        ATEMPORAL:            │
│     part of the meaning      ┊    dependent on the context  │
│                              ┊                              │
│  (a) inflectional morphology ┊   (e.g. spatial expressions, │
│      (e.g. aspectual marking)┊    perception verbs)         │
│  (b) lexical items           ┊                              │
│      (e.g. adverbials)        ┊                              │
│  (c) constructions           ┊                              │
│      (e.g. idioms)           ┊                              │
└──────────────────────────────┊──────────────────────────────┘
```
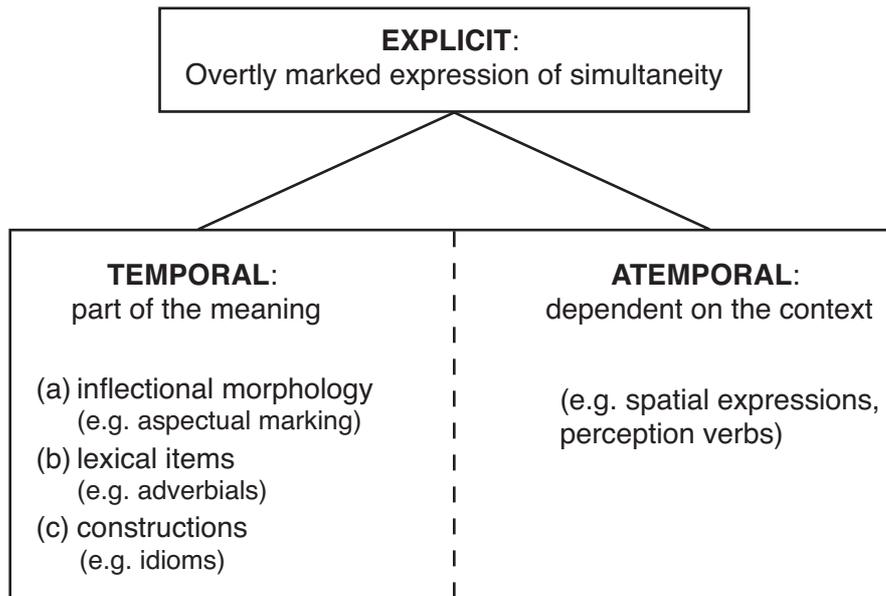
Figure 2.5   Explicit temporal & explicit atemporal devices for simultaneity marking

In sum, there is a division between explicit (overt) and implicit (non-overt) devices for expressing temporal simultaneity in language. In the present study, the focus is on the use of explicit devices. They can be divided into explicit temporal and explicit atemporal devices. For explicit temporal devices, the expression of simultaneity is part of the meaning and its occurrence is (a) regular and (b) grammaticalized for aspectual marking. Because of the absence of a temporal component, simultaneous readings expressed by explicit atemporal means must be, to a greater or lesser extent, conveyed on the basis of the given general, situational context and extra-linguistic knowledge. Although explicit atemporal means are not grammaticalized and their occurrence is contextually dependent, they mark simultaneity in an overt way. No such an overt device is present in implicit means.

These observations serve as general guidelines and include trends that the languages examined in this study exhibit regarding the overall marking of simultaneity. The two domains, temporal and atemporal, do not represent two strictly separated areas but rather a continuum of linguistic expressions.

2.2.2 Implicit simultaneity

As already mentioned, the domain of implicit means employed for expressing simultaneity is a fuzzy, nevertheless fascinating, research topic. In this section I would like to demonstrate their use on the basis of a few examples. The aim is not to give an exhaustive description of all possible implicit devices but merely to illustrate the way some of those means affect the temporal interpretation of sentences. The main focus will be on extra-linguistic/world knowledge and contextual clues.

A question that might come to mind when the temporal relation of two situations is not explicitly marked: Is it correct to interpret a sentence as simultaneous? Consider the following example.

(2.5) Peter was drawing a picture *and* playing piano.

In general, the use of the connective *and* makes a sentence ambiguous in terms of temporal sequence and temporal simultaneity. Consequently, the temporal interpretation of (2.5) must be determined by other sources. It is normally assumed that the activity of drawing a picture and the activity of playing piano can not be carried out by a single person simultaneously. Hence, the temporal interpretation of (2.5) is sequential (*Peter was drawing a picture and then playing a piano*).

The temporal sequence in (2.5) can, nevertheless, be transformed into temporal simultaneity either by changing one of the situations as in example (2.6), or by adding a second protagonist like in example (2.7) (for more detail, see chapter 3, 3.5.1.1):

(2.6) Peter was drawing a picture and *playing with his hair*.

(2.7) Peter was drawing a picture and *Mary* was playing piano.

In example (2.6), the stronger reading is temporal simultaneity (although temporal sequence is not ruled out). In (2.7), simultaneity is the preferred

interpretation. In both examples, the temporal order of the two situations is determined by implicit means.

Another interesting case where expression of simultaneity is grounded in shared extra-linguistic knowledge appears when predicates such as to talk on the phone are used. Consider the following example:

(2.8)   Mary is talking on the phone.

Example (2.8) implies that there is another person, who is listening to Mary talking. In this sense, the default interpretation of to talk on the phone is temporal simultaneity involving the activities of talking and listening. Note that this interpretation is dependent on knowing the concept behind talking to someone on the phone.

The next two examples illustrate the meaning shift when the predicate to talk on the phone, which implicitly expresses temporal simultaneity by default, is combined with an explicit atemporal simultaneity marker.

(2.9)   Mary and Peter are *both* talking on the phone.

The explicit atemporal marker *both* does not alter the general temporal interpretation, which is still simultaneous. However, it changes the entities between which the simultaneous relation is established. The default meaning of example (2.9) is that Mary and Peter are talking on phones but separately from each other.

In contrast, the following example shows that the use of a dual subject and an additional explicit device can make the default simultaneous interpretation associated with the predicate *to be on the phone* explicit:

(2.10) Mary and Peter are talking *to each other* on the phone.

Finally, example (2.11) is open regarding whether or not Mary and Peter are talking to each other. In this manner, the temporal interpretation is dependent on the given context.

(2.11) Mary and Peter are talking on the phone.

Examples (2.8) through (2.11) illustrate the relevance of extra-linguistic knowledge and contextual clues for interpreting the temporal order of two situations when employing predicates such as *to talk on the phone*. We can also see the strong interaction between context, pragmatics, and linguistic

expressions on the basis of the temporal dynamics resulting from different combinations of explicit and implicit devices.

The last example leads us to another question that might arise when dealing with implicit expressions of simultaneity. This question could be formulated as follows: Has this topic been mentioned/introduced before? In other words, what information can we obtain from the context when the temporal relations between two situations is left open?

Consider example (2.11) again but introduced in different contexts this time:

(2.12) The director tried to reach Mary and Peter this morning but he only got a busy signal. Then he was told that *Mary and Peter were talking on the phone*.

(2.13) The postman entered the room. *Mary and Peter were talking on the phone*.

(2.14) We wanted to convince Fred to come along. During the day, *Mary and Peter were talking on the phone* trying to get him out of bed.

According to several English native speakers, in the first scenario (2.12), Peter and Mary were talking to each other. I.e., during the time the director was trying to reach them, Mary and Peter were on the phone and talked to each other. In the example (2.13), the reading is that Mary and Peter were simultaneously on the phone but did not talk to each other because this would not make pragmatic sense. In example (2.14), Mary and Peter were neither talking to each other, nor simultaneously, but rather in turns to the third person involved in the story. In general, examples (2.12) through (2.14) show the impact of contextual clues on temporal interpretation.

I am aware that there are other ways to explore implicit devices in more detail. For example, one could contrast the use of verbs with different Aktionsarten in the foreground and background utterances (Klein, 1995 – narrative discourse in L2 English; Carroll et al., 2000 – descriptive discourse in L2 German; Aksu-Koç & von Stutterheim, 1994 - narrative discourse L1 German, Spanish, Turkish; Bohnemeyer 1998a, 1998b, 2002 – analysis of Aktionsart in German and comparison between German and Yucatek Maya).

Despite this option, implicit means are not further investigated in this study because of the following complications: First, implicit devices interact with additional factors such as extra-linguistic knowledge and are, therefore,

difficult to investigate (see chapter 2, section 2.2.2). Second, the assessment of an appropriate Aktionsart[11] is not a straightforward task. That is, several Aktionsart classifications were proposed (e.g. Vendler 1976, Smith 1992, Klein 1994) and none of them are unproblematic. In fact, they are being continuously criticized and reformulated (see e.g. Moens 1987, Shirai & Kurono 1998). As far as assigning Aktionsart to Czech verbs goes, the main problem concerns the 'double nature' of the Czech prefixes. As is outlined in chapter 3, section 3.1.1, Czech prefixes not only modify grammatical aspect but also lexical aspect (Aktionsart). From this viewpoint, the employment of Czech Aktionsart as a starting point for further analysis (e.g. exploring the expression of simultaneity by implicit means) would seem to be a rather complex undertaking.

2.2.3 Summary: the categorization of simultaneity

Explicit devices differ from implicit devices in that they mark simultaneity in an overt way entailing simultaneity while implicit means merely implicate simultaneity.

Implicit means are those devices that induce temporal simultaneity only in a non-overt manner. They are mainly represented by contextual clues and are strongly dependent on extra-linguistic/world knowledge. Implicit means are not grammaticalized and can therefore not be captured in a systematic way. They are considered to be relevant for expressing simultaneity since they interact with explicit atemporal means and hence reinforce the interpretation of temporal simultaneity.

A further distinction is made between explicit temporal and explicit atemporal devices. Atemporal means do not express simultaneity on their own but rather in interaction with each other and with implicit means such as context or shared world knowledge. Temporal means, on the other hand, are capable of marking and expressing simultaneity unambiguously without additional support.

---

[11] In general, it holds true that Aktionsart is inherently part of the verbal semantics and hence explicit. In context of the expression of simultaneity, however, the combination of two particular verb types does not canonically express simultaneity. It is more often the case that in such constellations, the temporal interpretation is dependent on the context. In this sense, analysis and assessment of the Aktionsart is more relevant when implicit rather than explicit marking of simultaneity is used.

It has been shown that explicit temporal simultaneity marking results in the least ambiguous simultaneous interpretation. Implicit means, on the other hand, are at the other end of the spectrum. As far as clear interpretation is concerned, explicit atemporal devices that are highly dependent on the context and other information sources can be located between explicit temporal and implicit devices on the explicit-implicit continuum.

In the present study, the focus is mainly on the use and function of explicit means employed for overt simultaneity marking because those means lead to an unambiguous simultaneous reading and can therefore be examined systematically.

2.3 Temporality in language

Since simultaneity is a temporal concept, it naturally falls into the domain of temporality. Traditionally, this domain includes the study of tense, aspect and Aktionsart. In this section, I describe some of the theoretical assumptions guiding the present investigation connected to (a) the general way in which temporality is encoded in language, and (b) the analysis of aspect. As pointed out in the first chapter (section 1.1), aspect is the category where the three investigated languages differ in their approach to expressing simultaneity. For this reason, focus will be placed almost exclusively on aspect.

The basis for encoding temporality in the three languages - in fact, all languages – is formed by two notions: *temporal intervals* (or time spans) and *temporal relations*, which both belong under the label *temporal structure*.

Temporal intervals are of time which can be characterized in different ways. In the most typical case, a temporal interval T is the time during which some event takes place or during which some state exists. A particularly important temporal interval in many natural languages is the time at which some utterance is expressed - the *moment of speech* or *time of utterance* (TU). It is deictically given, i.e., only identifiable by the speech situation itself. Time of utterance serves as a basic anchor for events, whose position on the time line is to be described by means of temporal relations: this kind of relationship gives rise to the traditional notion of tense (cf. also the classification by Reichenbach, 1947).

Temporal relations exist between two temporal intervals; thus, if S and T are temporal intervals, then S may be before T, after T, it may include T or be included in T, etc.

In the present context, I am mainly concerned with one type of temporal relation - simultaneity. S and T may be the time intervals holding for two events which are somehow mentioned in discourse. But it may also be that one of them is the time of utterance, and the other one is the time of some state or event. In the present study, the focus is mainly on the first type.

Languages have developed various means for characterizing temporal intervals and the relations between them. Essentially, these means can be broken down into five types:

- Grammaticalized verbal categories; these are the notions of tense and aspect in particular

- Temporal adverbials, such as English *at the same time*, German *gleichzeitig* ('simultaneously'), or Czech *během* ('during')

- Phasal verb constructions, such as *to begin to work, am Schreiben sein* ('to be writing'), *začínat jíst* ('to be about to start to eat')

- Inherent temporal features of verb meanings (Aktionsart, situation aspect, lexical aspect); the best-known classification of these inherent temporal properties are the four Vendler types (1976): *states*, *activities*, *accomplishments*, and *achievements*. But many other classifications have been proposed, especially for the Slavic languages where the formation of new Aktionsarten via prefixes plays an eminent role.

- Discourse principles such as the well-known *Principle of Natural Order* (PNO), which says that in the normal case, events are reported in the order in which they occurred. This principle plays an important role in natural discourse, for example in narratives, and thus also in the expression of sequentiality and simultaneity. It is not the only discourse principle (e.g., von Stutterheim (1986), Dietrich, Klein & Noyau (1995) for a discussion of discourse principles and their role in learner languages).

In the following, I will focus on the grammaticalized means of English, German and Czech, respectively. The core discourse principle PNO seems to be valid in all three languages, so there is no need to discuss any differences.[12]

All three languages have a rich repertoire of temporal adverbials whose functions are similar in principle: they can indicate the duration of some time span, a position on the time line with respect to some other time span, or the frequency of time spans of a certain type. Their precise meanings may vary in a quite obvious or sometimes very subtle way. Thus, English *since*, German *seit* and Czech *od té doby*, and the phrases formed with them mean approximately the same thing, as becomes apparent when translating sentences containing those elements; but on closer inspection, there are also many differences. The precise analysis of these adverbials is an extremely difficult task involving lexical analysis, which goes far beyond the scope of the present study.

Essentially the same argument can be made for phasal verb constructions, that is, syntactical constructions such as *to begin to work, am Essen sein, začínat jíst* (for more detail, see chapter 3 on inchoative verbs). These, too, function quite similarly in all three languages, and just as in the case of the adverbials, there are subtle differences whose precise nature is largely a matter of lexical analysis, which will not be covered here. I will therefore concentrate on the analysis of the two grammaticalized temporal categories tense, and in particular, aspect. Aktionsarten will be examined in connection with the function of prefixation in Czech and German in chapter 3.

2.3.1 Analysis of aspect

It should be mentioned up front that despite intensive research on the category of aspect, there is still a vivid discussion about its basic conceptual status. This also holds true for the functioning of particular forms, such as the progressive in English (Shirai 1998, Klein 2000), the Perfekt in German (Comrie 1995, Klein 1994), or the many perfective prefixes (e.g. *na-*, *vy-*) in Czech (Filip 2001, Stunová 1991). In what follows, an alternative aspect analysis will be introduced, which enables us to bring the notion of aspect into the fold along with other temporal notions such as tense.

---

[12] Interestingly, v. Stutterheim and Carrol (2003) have shown that the grammaticalized devices of a language can have a strong influence on more nuanced means of dicourse organization. But these factors are not the focus of the present study.

Typically, the category of aspect is assumed to be principally different from the tense category. Tense is defined as the "grammaticalized expression of location in time" (Comrie 1985: 9). It is clear that under this definition, tense expresses temporal relations: it is a deictic-relational category which links the time of an event or, as we shall say here, *the time of a situation* (abbreviated TSit) to the time of utterance (abbreviated TU). Aspect, on the other hand, is not relational under its classical definition: it only reflects the view under which the situation is described; it does not link the time of the situation to some other time span. Thus, since simultaneity is clearly a temporal relation between two temporal intervals, it seems that there is no apparent connection between aspect and the expression of simultaneity in languages in general.

Klein (1994) has suggested a time-relational analysis of temporality, under which both tense *and* aspect are relational categories, i.e., aspect and tense are closely linked. The three crucial notions here are the *topic time* (TT), the *time of situation* (TSit), and the *time of utterance* (TU). The topic time is the time span about which a claim is made while the time of situation stands for the time interval for which a situation is valid. Time of utterance is the time at which a particular utterance is uttered.

From this view, tense relates the TT to the TU, while aspect relates TT to the TSit. Furthermore, Klein's analysis also accounts for the traditional notion of aspect according to which aspect represents a different way of presenting a situation (cf. Comrie 1976). In the following, I shall adopt Klein's basic argument without going into detail about precisely how the various temporal forms in the three languages should be analyzed. This is a highly intricate matter that is not directly relevant for the purpose of the empirical analysis. It does allow us, however, to link the notion of simultaneity - and other temporal relations - to tense and especially to aspect.

Before turning to this analysis, it is useful to point out some problems with the "canonical definition" of the notion of aspect. A somewhat more elaborate version of the classical idea is given by Bybee (1992: 144):

> Aspect is not relational like tense; rather, it designates the internal temporal organization of the situation described by the verb. The most common possibilities are perfective, which indicates that the situation is to be viewed as a bounded whole, and imperfective, which in one way or another looks inside the temporal boundaries of the situation.[...].

This understanding underlies virtually all older work (Reichenbach 1947, Verkuyl 1972) and a great deal of more recent research on aspect (Verkuyl 1993, Ogihara 1999, Slabakova 2002), although the way in which the notion of aspect is "reconstructed" in recent, more formal treatments, varies considerably. In a nutshell, the conventional characterization of aspect is but a metaphor - intuitively appealing but far from a precise definition.

When it is said that aspects are different ways of "viewing" a situation, it is not at all clear what "viewing" means here. It can't have its literal meaning. This metaphorical notion of viewing, intuitively plausible as it might seem at first, needs to be explained. The same problem arises for that part of the definition which concerns perfectivity (and, analogously, imperfectivity in particular). What does it mean to say that a situation is presented "in its entirety", "as a whole", "without reference to inner constituency", to quote some typical characterizations from the aspect literature? Again, these metaphors have some intuitive plausibility in cases such as *John read a book* vs. *John was reading a book*. But they are not very helpful in other cases, such as *They hoped for a better future* vs. *They were hoping for a better future* or *He stood on his toes* vs. *He was standing on his toes*.

To sum up, notions such as "without looking into the boundaries", "with reference to the inner constituency", "viewed as a whole" are not well defined theoretical terms. They characterize valuable intuitions, but they need to be replaced by precisely defined terms of a linguistic theory that is able to capture these intuitions. As mentioned above, in Kleinís view, not only is tense a temporal relation, but aspect is as well. In other words, aspect is a temporal relation between TT and TSit. For a more comprehensive overview, consider the following figure (INCL = inclusive, AT = overlapping):

Aspect	Temporal relation expressed between TT & TSit
IMPERFECTIVE	TT **INCL** TSit: *John was sleeping.*
PERFECTIVE	TT **AT** TSit and **TIME AFTER** Tsit: *John slept.*
PERFECT	TT **AFTER** TSit: *John had slept.*
PROSPECTIVE	TT **BEFORE** TSit: *John was going to sleep.*

Figure 2.6   Temporal relations - aspect

In the imperfective aspect, for example, TT is fully included in TSit. This explains the intuitive feeling that "the situation is presented from its interior, not as a whole, as being incomplete". The situation itself is only indirectly related to TU; in a way, TT mediates between these two time spans.

It is important to keep in mind that aspect and tense, as defined here, are abstract temporal relations, not inflectional forms. Languages encode these relations in different ways. It may be that a language collapses all possible tenses into one form; i.e., it has no overt (morphological) tense marking. Chinese illustrates this possibility. German, on the other hand, does have tense but does not have grammaticalized aspect. This does not mean that speakers of German do not have this notion; it only means that a German tense form, such as the present tense, does not differentiate between these possibilities: they employ one and the same tense form, regardless of whether TT is included in TSit or vice versa (i.e. not considering different aspectual constellations).

In accordance with Klein (1994), aspect is analyzed as a temporal relation. This way aspect can be directly related to the notion of simultaneity (and other temporal relations). Note that under such a time-relational analysis of aspect, the familiar intuitive characterizations quoted above are naturally explained (for more detail, see chapter 3). If the TT, that is, the time talked about, is fully included in the TSit, then this gives the feeling that the situation is seen from the inside, as non-completed, without its boundaries: it is imperfective. If, on the other hand, the TT includes TSit, then the event has come to an end within the time period that was talked about - within the time window under consideration; this gives the impression that the situation is seen from the outside, as completed, with its boundaries: it is perfective. Hence, this analysis is not at odds with the traditional characterizations of these core aspects, but rather refines their analysis.

2.3.2 Summary: temporality in language

Languages have developed various means to convey temporality. In other words, they differ in the way they characterize temporal intervals and the relations between them. In this section, we have looked at the grammaticalized category of aspect that is relevant for expressing simultaneity (for more detail about language specific means for the expression of simultaneity, see chapter 3). In order to describe and analyze the notions of aspect, Klein's time-relational analysis from 1994 was adopted. According to this view, aspect is a

temporal relation, an attribute traditionally reserved for tense. Tense relates the topic time and the time of utterance, while aspect expresses the relation between the topic time and the time of situation. In this manner, the category of aspect turns out to be linked directly to the category of tense, and hence also to temporal simultaneity.

Having established this key connection we proceed to the next chapter, which addresses the issue of how simultaneity is expressed in the three investigated languages. In addition, for each language a section focusing on aspect analysis is provided.

THE EXPRESSION OF SIMULTANEITY IN ENGLISH, GERMAN, AND CZECH[1]

In this chapter, I discuss what the linguistic possibilities in Czech, English, and German are for expressing temporal simultaneity. The description is not based on an empirical investigation of how these devices are used but rather on the grammars of the investigated languages. These are - *Příruční mluvnice češtiny*, Karlík et al. 1995; *Mluvnice češtiny*, Petr et al. 1987 for Czech; for English - *A comprehensive grammar of the English language*, Quirk et al. 1985; *English Grammar*, Huddleston 1995; and for German - *Grundriss der deutschen Grammatik*, Eisenberg 1986; *Deutsche Grammatik*, Engel 1988; *Deutsche Grammatik. Ein Handbuch für den Ausländerunterricht*, Helbig & Buscha 2001. Since grammar books pay only a limited amount of attention to the phenomenon of temporal simultaneity, this description can not capture all the possible devices for expressing this temporal relation and is therefore not exhaustive.

In addition to this survey, a short overview is given of how aspect is expressed in each of the investigated languages in this study. Every language section begins with such an overview. The ways in which aspect is encoded in English and German have been studied in the past. However, there is somewhat less research on Czech, although a great deal of what has been written on Russian and Slavic languages in general also applies, with minor adaptations, to Czech. For these reasons, I shall be very brief with respect to English and German and focus on those aspects that might be of immediate relevance for the learner of Czech. That means that the Czech system is explained in somewhat more detail, first, because the reader cannot be assumed to be acquainted with this system, and second, because this is what the learners in my study have.

The main goal of chapter 3 is to give a full overview of how languages that are contrasted in this study convey simultaneity. Important differences and similarities are highlighted. As for the analysis of aspect encoding, the following exposition is not intended to survey this domain and find new

---

[1] Parts of this chapter have been published in Höhne, S. & Nekula, M. (Eds.) *Germanistisches Jahrbuch Tschechien - Slowakei: Schwerpunkt Sprachwissenschaft*. Lidové noviny, Praha; 181-212.

notions, but rather to sum up the essential facts that most researchers agree on. The most prominent differences in terms of aspect encoding between the three investigated languages are summarized in table 3.1. As shown later, these differences are critical for second language learners acquiring aspect and the expression of simultaneity in the TL. The following overview is explained in more detail below, in section 3.6.1.

	grammati-calized imperfetive	grammati-calized perfective	past perfect	present perfect	future perfect
English	+	−	+	+	+
German	−	−	+	±	+
Czech	+	+	−	−	−

pure aspectual marking   combination of tense & aspectual marking

Table 3.1   Expression of aspect: comparison between English, German and Czech

Finally, it should be emphasized that in line with the classification of linguistic devices for expressing simultaneity introduced in chapter 2, my attention is devoted only to explicit linguistic devices. Recall that the explicit device group consists of two types of means: explicit temporal and explicit atemporal devices. The former are language specific and hence discussed separately for each language (sections 3.1 through 3.3); the latter are largely analogous for all languages and can be outlined together (section 3.4).

3.1   Czech

Czech is a West Slavic language (West Slavic includes Czech, Slovak, Serbian, and Polish). The long period of domination by German-speaking rulers (from 1620 until 1918) during which Czech was abandoned from public use and the fact that much more than half of the perimeter of the territory borders on German-speaking countries, has resulted in a prominent German influence on Czech. This influence is not only noticeable in slang and colloquial spoken Czech but also in calques and syntactic loan translations and finally in the language's lexicon, grammar and syntax. Despite the longstanding German influence, Czech, like any other Slavic language, is an "aspect-dominant" language. In the following, I explain the term "aspect-dominant" by outlining

the aspect system (i.e. the use of prefixes and suffixes for aspectual marking), and briefly discuss the interaction between tense and aspect.

3.1.1 Czech aspect

This section focuses on the time-relational analysis of aspect that makes it possible to relate aspect to the notion of simultaneity. The Czech aspectual system is explained from this point of view.

Czech has developed a systematic method for aspect marking: it is marked by morphological devices on the verb root or stem. These devices are grammaticalized and in many cases still productive. The difficulty seems to be that *aspect* is not a pure grammatical category, and as we will see later, it is not easy to distinguish between morphological marking and word formation means (cf. perfectivization via prefixation).

It is traditionally assumed that a Czech verb, aside from a few exceptions, exists in two forms (Karlík et al. 1995, Short 1993, Petr et al. 1987): perfective (Perf) and imperfective (Imperf).

> In Czech, most verbs appear in two or three forms which do not differ in their basic lexical meanings but rather in their aspect.[2]
> (Petr et al., 1987: 179)

Because of this dichotomy it is often assumed that many though not all Czech verbs form so-called *aspectual pairs*. A pair logically consists of two forms, a perfective and an imperfective form. The fundamental difference between the two forms is aspect. This difference is considered to be grammatical.

The claim that every Czech verb is either perfective or imperfective and that the main pattern within the aspect domain is aspectual pairing, immediately raises the question: How does a speaker (or a learner!) know that a particular verb form is perfective (Perf) or imperfective (Imperf)? Assuming that a grammatical category, such as Czech aspect, is based on a mapping between a particular form and (a) particular function(s), two answers are possible:

> (1) The categories Perf and Imperf are based on an EXPLICIT FORMAL marking represented by any type of verbal inflectional morphology (such as a prefix) or by some other morphosyntactic device. In this sense, the

---

[2] Author's own translation. The original text can be found in Materials.

meaning connected to each aspect can cover an entire range of variants. That means that only the formal contrast matters.

(2) The categories Perf and Imperf are based on a SPECIFIC MEANING such as "degree of completion", which characterizes each category in a unique way. These semantic features might, depending on context, vary to some extent but they must be stable enough so that one can clearly differentiate between Perf and Imperf.

To start off, we concentrate on the form-based possibility (1): the distinction between Perf and Imperf is based on an explicit formal marking. I argue that this does not hold true for Czech. In order to test this hypothesis, I need to outline the way in which Czech verbs are assigned aspectual interpretation or are overtly marked for aspect.

Simplex verbs

Simplex verbs are verb forms that are not morphologically marked for aspect. Most simplex verbs are imperfective (e.g. *psát* 'to write'). However, there is also a small group of simplex perfective verbs (e.g. *dát* 'to give'). Additionally, some simplex verbs are ambiguous between Perf and Imperf (e.g. *jmenovat* 'to name/to appoint'). It is apparent that the difference between simplex perfective and simplex imperfective verbs is not due to an explicit formal marking.

Verbal prefixes

A large set of prefixes can be used in order to form a perfective verb. These prefixes are: 1. *do-*, 2. *na-*, 3. *nad(e)-*, 4. *o-*, 5. *o/ob(e)-*, 6. *od(e)-*, 7. *po-*, 8. *pod(e)-*, 9. *pro-*, 10. *pře-*, 11. *před(e)-*, 12. *při-*, 13. *roz(e)-*, 14. *s(e)-*, 15. *u-*, 16. *v(e)-*, 17. *vy-*, 18. *vz(e)-*, 19. *z(e)-*, 20. *za -* (Karlík et al 1995: 199ff).

Each of them is associated with a cluster of meanings, most of them exhibit polysemy and homonymy, and the realization of a given meaning of a prefix is highly dependent on the context in which the prefix occurs. Four main possibilites can be observed here.

(1) The verbal prefix modifies the underlying meaning of the verb in a characteristic way. Thus it regularly makes the verb, for instance, inchoative (*roz-esmát* 'to start laughing'), resultative (*do-psat* 'to write to an end'), etc. In other words, these prefixes not only lead to perfective aspect but also introduce a specific Aktionsart to the verb. Note that depending on the verb, one and the same prefix can express different

types of Aktionsart (iterativity: *psát* 'schreiben' > *pře-psat* 'to re-write' or directionality: *plavat* 'to swim' > *pře-plavat* 'to swim across').

(2) The verbal prefix not only modifies the aspectual properties but also influences the lexical semantics of a verb (Aktionsart): *malovat* vs. *na-malovat* 'to draw vs. to finish drawing something', *zvonit* vs. *za-zvonit* 'to ring a bell vs. to ring a bell once'. The same prefix can be used for aspectual modification alone (*cvičit* psa 'to be training a dog' / *vy-cvičit* psa 'to complete the training of a dog') or also to modify the lexical content of the verb (with verbs of motion *plavat* 'to be swimming' / *vy-*plavat 'to swim out from somewhere', which gives directional information).

(3) The verbal prefix can perfectivize but only to produce a new lexical item. The prefixes often have a local meaning. For example, *před-* 'pre-' as in *vést* vs. *před-vést* ('to carry vs. to perform'), *pod-* 'sub' as in *vést* vs. *pod-vést* ('to carry vs. to cheat'), *od-* 'away from' as in *jet* vs. *od-jet* ('to go vs. to go away'). Interestingly, there is also a small group of prefixes containing a long vowel that never perfectivize. E.g., *závidět* 'envy', *příslušet* 'appertain'. Also, the rare short vowel prefix *pa-*, as in *padělat* 'counterfeit', belongs to this group.

(4) A prefixed verb has a lexical meaning that can not be compositionally derived from its components at all. For example, *dovést* 'to be (cape)able' - [*do-* 'in(to)' + *vést* 'to lead']; *vejít se* 'to fit (can go in)' - [*ve-* 'in' + *jít* 'to go'].

In summary: the majority of verbal prefixes change lexical meaning in one way or another. In other words, they CHANGE NOT ONLY THE ASPECTUAL BUT ALSO THE LEXICAL PROPERTIES OF A VERB. Some prefixes can have a pure perfectivizing function. Other prefixes always modify the aspectual and the lexical-semantic characteristics of a verb. Overall, it is not an easy task (even for a native speaker) to determine whether a prefix is used only for aspectual or also for lexical modification because, depending on the verb, one and the same prefix can be purely aspectual or both aspectual and lexical. In this manner, Czech prefixes show a strong resemblance to German prefixes, which also are used to modify the Aktionsart of the verb (cf. Schmiedtová, 2004).

Verbal suffixes

Suffixation can also express aspect. There are two suffixes, one for imperfectivity, *va-*[3], and one for perfectivity *nou-*. These two suffixes are "morphological exponents of the imperfective and perfective aspectual operator, respectively" (Filip 2001: 14). In addition, the suffix *va-* can have a generic interpretation. Here, I adhere to the view of Filip and Carlson (1997: 103): "… 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". This interpretation of the suffix is not discussed here in detail.

The suffix *va-* can form:
> (a) an imperfective verb from a derived or simplex perfective verb

> *vy*-psat (derived Perf)   vy-piso-*va*-t
> PREF.write.INF   PREF.write.IMPERF.INF
> to write out   to be writing out
> to announce   to be announcing

> *dát* (simplex Perf)   dá-*va*-t
> give.INF   give.IMPERF.INF
> to give   to be giving

> (b) an imperfective verb with the generic *va-* from a simplex
>   imperfective verb

> *psát* (simplex Imperf)   psá-*va*-t
> write.INF   write.HAB.INF
> to write   to have the habit of writing

> The suffix *nou-* can form
> (a) a perfective verb from a simplex imperfective verb[4]

> *křičet* (simplex Imperf)   křik-*nou*-t
> scream.INF   scream.PERF.INF
> to be screaming/to scream   to scream only one time

---

[3] The form *va-* is used as an overgeneralization of all the possible allomorphs of this form found in the actual data.

[4] Note that some verbs suffixed with *nou-* are imperfective (e.g. tisk-*nou*-t 'to press'). Hence, the presence of this suffix does not necessarily predict that a verb will be perfective.

Note that the only contribution of the suffixs *va-* and *nou-* is to change the aspectual properties of a verb. The lexical meaning is not changed in any way. The perfectivizing suffix *nou-* can be applied to many but not all Czech verbs.

Based on the difference made between simplex and derived verbs and the outline given for aspectual derivation possibilities (suffixation and prefixation) in Czech, the following types of Perf - Imperf combinations need to be distinguished:

(1) There are few aspectual pairs, where a simplex Imperf and simplex Perf are contrasted: *běžet*/*běhat* 'to run/to be running'. Additionally, there are few suppletive pairs, notably *brát*/*vzít* 'to be taking/to take', *klást*/*položit* 'to be putting/to put', etc.

(2) Some verbs have no aspectual partners. For example, modal verbs and some statives do not have aspectual partners as they are inherently imperfective. They are called imperfectiva tantum: *muset* 'must', *žít* 'to live', *viset* 'to hang', etc. There is also a small group of verbs that exclude imperfectivity and can only be interpreted perfectively. They are called perfectiva tantum: *nadchnout* 'to inspire', *vynadívat se* 'to see enough of something', etc.

(3) Some simplex Imperf verbs have a derived Perf partner, which is formed by suffixation (suffix *nou-*). This is a pure aspectual contrast based on a systematic morphological process. However, it applies only to a restricted set of verbs of a particular type that is not easy to specify.

(4) The opposition between simplex Imperf and a derived Perf verb can also be formed by prefixation. The problem here is that most prefixes add a new lexical meaning to the verb, which makes the two aspectual partners differ not only in aspect but also in lexical meaning. Furthermore, in some cases the imperfective partner can then have several perfective partners, each of which expresses a particular Aktionsart. This is rather unfortunate for the concept of aspectual pairs (partners) that are supposed to differ essentially in aspectual properties.

(5) There are few cases of derived Imperf (suffixation *-va*) and simplex Perf forming a pair. For example, *koupit*/*kupovat* 'buy/to be buying'. Since simplex perfectives are rare, this group is very small.

(6) There is a larger group of aspectual counterparts where a derived Imperf (formed by means of suffixation) is paired with a derived Perf (formed by means of prefixation). For example, *s-lepo-va-t* / *s-lepit* 'to glue together'. As in the case described in (4), the difference between these two forms is a pure

35

aspectual contrast based on a systematic morphological process. The problem is that only a particular type of verbs can undergo this process. Moreover, it is not easy to characterize this verb type in clear semantic terms.

(7) Some forms are ambiguous between Perf and Imperf (e.g. *věnovat* 'devote/give'). These verbs only form a small group and are not relevant for the purpose of the present study.

It can be concluded from points (1) through (7) that ASPECTUAL MARKING IS NOT BASED ON FORMAL MARKING. Many verbs are simplex imperfectives, a smaller group are simplex perfectives. From a formal point of view, simplex verbs are not marked for aspect at all.

The possibility of forming pure aspectual pairs is restricted to only a few verbs and is therefore not to be understood as a rule but rather as an exception. This way, the difference between Imperf and Perf is only partially grammaticalized in Czech[5]. Thus English and Czech are different in this respect, since the English contrast between the simple form and the progressive *-ing* form affects the majority of verbs (except a few verbs such as *to know*, *to love, to have* and even these verbs can be used progressively in some contexts: *I am loving every minute*, *She is having lots of fun.*).

Since I rejected the first possibility that the differentiation between Perf and Imperf is based on formal marking, the second option must be explored: the categories Perf and Imperf are based on a SPECIFIC MEANING. In what follows, I focus on the notion of completion.

It is widely assumed that the categories perfective vs. imperfective differ with respect to degree of completion (completed vs. non-completed).

> […] these forms have the same lexical meaning but differ with respect to the degree of completion of the action depicted by the verb.[6]   (Karlík et al. 1995: 318)

There are three major problems with this analysis.

(1) Imperfective verbs can also be used for depicting situations that are clearly completed. Consider the following example:

---

[5] Klein (1995) carried out a similar analysis for Russian.

[6] Author's own translation. Original text can be found in Materials.

(3.1) Jana spala (*Imperf*) včera u kamarádky.
Jana sleep.3sg.Past.Imperf-S yesterday at friend.Gen.sg.Fem
Yesterday, Jana slept at a friend's.

The verb used in example (3.1) is simplex imperfective although the situation is bounded and completed. Note that this is not due to the past marking. The next example shows that the same argument also holds true for situations in the future:

(3.2) Jana bude zítra pracovat (*Imperf*) / pracuje (*Imperf*) od dvou do osmi.
Tomorrow, Jana will be working/works from two to eight.

The situation in (3.2) is completed at eight o'clock. In other words, similar to (3.1), despite the fact that it is a bounded/completed situation, an imperfective verb is used. The reason is that the verb *pracovat* 'to work' is a simplex verb which has no perfective partner with the same lexical meaning. A further consequence of this fact is that the simplex imperfective form *pracuje* can be used in the simple future form normally reserved for perfective verbs.

(2) The second major problem with the notion of completion is that speaking of completion only makes sense with respect to some particular time - "completion is always relative to a time interval" (Klein 1995: 676). A situation is completed at some time and at any time thereafter (the so-called posttime). It is, however, not completed at any time before that. This 'completion time' can but need not to be explicitly specified in the utterance. Nevertheless, without a clear notion of this 'completion time' at which completion was achieved, the notion of completion as a definition for the difference between Perf and Imperf remains incomplete.

(3) A third weakness of the notion of completion is that it emphasizes the endpoint of the situation while ignoring other parts, specifically the onset point (Comrie 1976). As pointed out by Klein (1995: 677), this observation is correct, but difficult to demonstrate. I only refer to this point in order to complete the picture.

For my present purposes, the first of the three problems discussed above are sufficient to indicate that the meaning approach can not systematically account for the differences between Perf and Imperf. This is supported by Klein (1995: 673) who demonstrated the same point for other common notions such as '± totality', and '± internal boundary'. All these notions are valuable intuitions, however, they are unsatisfactory when used as defining criteria for the difference between Perf and Imperf.

The definition I adopt for the analysis of Czech aspect is the strict time-relational analysis introduced in chapter 2. Within this approach, aspect is defined as a temporal relation between topic time (TT) and time of situation (TSit). The aspectual system in Czech consists of only two aspects: the imperfective and the perfective aspect. The imperfective aspect is defined as TT included in TSit, which naturally corresponds to the intuition of incompletion: within a given TT, there is no change and therefore also no completion. Compare the following figure (dashed line ----- refers to the TSit, brackets [ ] refer to TT)[7]:

Imperfective: Petr vcházel dovnitř.   -----[--------]------
                     Peter was coming in.   Posttime

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

The perfective aspect, on the other hand, is defined as TT at TSit and in the posttime of the TSit. This definition can also easily account for the completion intuition: within a given TT, there is always a change and therefore a situation gets completed. For illustration, consider figure 3.2:

Perfective: Marie zavřela dveře.   -------------[------   ]
                     Mary closed the door.   Posttime

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

Next, I will make a few final remarks about at the interaction between tense and aspect in Czech. There are two points: (1) In general, perfectivity and present tense are mutually exclusive. Perfective verbs therefore only appear in combination with the past or the future tense. (2) In the compound future tense, the infinitive verb must be an imperfective. As we will see later (chapter 3, section 3.1.2.1), condition (1) does not always need to be satisfied. For a better overview, see figure 3.3:

---

[7] Klein (1994) differentiates between the *source state* (SS) and the *target state* (TS) of a situation. For example, in *to enter a room* the SS is *being outside of a room* and the TS *being inside a room*. Other verbs, like *to stand* includes only a single state, which can be treated either as SS or TS. In the present analysis, only the source state is treated for English as the relevant part of TSit for all verbs.

Aspect   Tense

	Past	Present	Simple future
Perfective	napsal jsem 'I wrote'	---	napíšu 'I will write'
			Compound future
Imperfective	psal jsem 'I was writing'	píšu 'I am writing'	budu psát 'I'll be writing'

Figure 3.3   Interaction between tense and aspect in Czech

It is important to realize that the Czech aspect system is based on the opposition between perfective and imperfective. The perfect and prospective aspects are completely absent. Further, tense and aspect are not combined as in English (for all perfect forms), or German (for Futur II, Plusquamperfekt). This means that the posttime (i.e. temporally defined time span AFTER a situation has been completed) or the pretime (i.e. temporally defined time span BEFORE a situation has begun) of a situation must be conveyed by other than aspectual means (e.g. by adverbials) in Czech. Additionally, aspect interacts with tense in a specific way so that certain constellations are not possible. All this might be potentially challenging (and problematic) for an English or German learner acquiring Czech as a second language. This is explored during the course of the present study.

3.1.2. Explicit temporal means

As far as explicit temporal means are concerned, I first focus on the target language (TL) Czech. The aim is to introduce the possible explicit temporal devices that can be employed for simultaneity marking in the TL and supply examples for this option.

In general, the way in which Czech encodes temporality relies heavily on aspectual marking. As shown below, the Czech aspectual system is very productive, nevertheless, its systematicity can be questioned. Note that this feature potentially represents an immediate problem for a learner of Czech.

In Czech, explicit temporal devices express simultaneity lexically (e.g. adverbials) and by means of verbal inflection (aspectual derivation). Both types of devices can express temporal simultaneity in combination with each other (e.g. aspectual marking and temporal adverbials) but only verbal inflection, namely aspectual marking, can serve this purpose in isolation. The only case in which lexical devices express temporal simultaneity more or less on their own

is when the default interpretation of two juxtaposed perfective verbs is overridden by the presence of a lexical device such as an adverbial (cf. example (3.9)). This, however, is a special case. Normally, lexical means co-occur with aspectual marking expressing simultaneity. In this sense, aspectual simultaneity marking is the basis and also the simplest way to express temporal simultaneity.[8]

First, I sketch the use of verbal inflection and discuss the possible combinations of aspect used for the expression of simultaneity. In the second part, the focus is on lexical devices. In addition, I also discuss the interaction between tense and aspect and the consequences for simultaneity marking. In the last part of this section, inchoative verbs are mentioned. These verbs do not as such mark simultaneity, but they often appear in contexts where temporal simultaneity is expressed by verbal inflection together with lexical devices.

3.1.2.1 Verbal inflection

Temporal simultaneity can be expressed in the domain of verbal inflection by means of aspectual marking. I shall use this term in a broad sense, thus including not only overtly derived perfectives/imperfectives but also the mandatory perfective/imperfective interpretation of simplex forms. To explain how verbal inflection is used in Czech to convey simultaneity is the main goal of this part.

The relationship of Czech aspect to completion and on-goingness allows the following combinations for expressing temporal simultaneity: (a) aspectual *opposition*/*contrast*[9] and (b) aspectual *juxtaposition*.

(a) Aspectual opposition/contrast

Aspectual contrast refers to the opposition between a perfective and an imperfective verb (3.3) or an imperfective and a perfective verb (3.4). The aspectual marking can either be overt (via prefixation and/or suffixation) or

---

[8] Note that because every Czech verb is either marked for perfectivity or imperfectivity (suffixation/prefixation), or its simplex form carries a perfective or imperfective meaning, aspectual interpretation or overt marking of a verb is inevitable. This is independent of whether or not temporal simultaneity is expressed.

[9] The terms aspectual opposition and aspectual contrast refer to the same linguistic entity and are used thoughout this study as synonyms.

non-overt (via simplex forms). Consider the following set of sentences where both verbs are marked for past tense:

(3.3)   Marie *zavřela* (Past, Perf) okno, Petr *vcházel* (Past, Imperf) do pokoje.
        Mary *closed* the window, Peter *was coming* into the room.

(3.4)   Marie *zavírala* (Past, Imperf) okno, Petr *vešel* (Past, Perf) do pokoje.
        Mary *was closing* the window, Peter *came into* the room.

In example (3.3) the closing-event and the coming-event are interpreted as partially overlapping. It could be rephrased as: At the moment when Mary closed the window Peter was entering the room. In the second example, the coming-event is included in the closing-event. In this sense, (3.4) could be paraphrased as: During the time when Mary was in the process of closing the window Peter entered the room. Both examples illustrate unambiguous expression of temporal simultaneity by means of aspectual contrast (perfective versus imperfective). Note that aspectual contrast includes both orders: perfective - imperfective and imperfective - perfective. I am aware that these two orders imply different perspectives concerning event interpretation, but this is not considered any further.

Recall that perfective verbs used in the present tense have a future tense reading. This rule holds true for perfective verbs when interpreted in isolation. But, sometimes perfectives in the present tense can have a here-and-now interpretation. This is illustrated in the following example produced by a Czech native speaker:

(3.5)   Ten kluk *slíže* (Perf) tu hořčici
        jeho bratr *vchází* (Imperf) do pokoje.   (SUB10CALV_CZ)[10]

        The boy *licks off* the mustard,
        his brother *is coming* into the room.

In (3.5), the verb of the first senctence *slíže* is a perfective in the present tense expressing that the licking-event will be over at some point in the future. The

---

[10] All examples marked with this label are part of the database collected for the purpose of this study. The label indicates that a particular example was produced by a subject rather than constructed by the author. The first part of this label (SUB) refers to the subject number; the second part specifies the name of the stimulus (e.g. CALV); the final part gives information about the linguistic background of the subject (e.g. CZ-Czech; GER_CZ-German learner of Czech).

second verb *vchází* is an imperfective in the present tense expressing that the coming-event is happening at the time of utterance. The temporal relation between the licking-event and the coming-event is simultaneous. Moreover, the future reading of the perfective is cancelled out and shifted to the here-and-now interpretation.

This example represents a special case that occurs in certain contexts such as a live movie retelling or when a theater director gives stage directions. Nevertheless, like in the previous two examples, temporal simultaneity is also expressed in an unambiguous way in (3.5). Moreover, on the basis of this real-world example, it becomes clear that depending on the context, perfective verbs in the present tense do not always need to have a future interpretation.

Although the interaction between aspect and tense in connection with the expression of temporal simultaneity is an interesting issue, I do not address this in great detail. A few further examples that demonstrate this phenomenon are presented in section 3.1.2.2.

(b)   Aspectual juxtaposition

Aspectual juxtaposition is the second option for expressing temporal simultaneity by means of aspect. Two juxtaposed verbs are both either imperfective or perfective. When two imperfective verbs appear in juxtaposition, the two sentences are interpreted simultaneously, as in example (3.6):

(3.6)   Marie zavírá (Imperf) okno, Petr vchází (Imperf) do pokoje.
Mary *is closing* the window, Peter *is coming* into the room.

The same temporal interpretation applies for sentences, where both verbs are marked for past tense. This is illustrated in example (3.7).

(3.7)   Marie zavírala (Past, Imperf) okno, Petr vcházel (Past, Imperf) do pokoje.
Mary *was closing* the window, Peter *was coming* into the room.

One final remark should address the option of juxtaposing two perfective verbs. Let's consider the following example:

(3.8)   Marie *zavřela* (Past, Perf) okno, Petr *vešel* (Past, Perf) do pokoje.
Mary *closed* the window, Peter *came into* the room.

The combination of two perfective aspects in (3.8) expresses a temporal sequence. In other words, temporal simultaneity is excluded because the default

interpretation of two juxtaposed verbs which are either simplex or marked perfectives, is sequential.[11] The temporal sequence can be overruled, but only when an additional explicit device (e.g. a temporal adverbial like *at that moment*) is added.[12]

(3.9) Marie *zavřela* (Past, Perf) okno, *v tom momentě vešel* (Past, Perf) Petr do pokoje.
Mary *closed* the window, *at that moment* Peter *came into* the room.

Let us now return to example (3.8). This example can only mean that Mary first finished closing the window and then Peter came into the room. In other words, in contrast to examples (3.3) through (3.7) & (3.9), Peter did not see Mary closing the window in example (3.8).

So far, I have discussed cases of temporal simultaneity expressed by means of verbal inflection. Two ways were considered: aspectual opposition contrasting two different aspects and aspectual juxtaposition adjoining two imperfectives. The juxtaposition of two perfectives can normally not be used for marking simultaneity because its default interpretation is sequential.

Note that the employment of aspectual marking is sufficient for expressing simultaneity. In other words, the mere presence of an aspectual contrast between a perfective and an imperfective verb or a juxtaposition of two imperfective verbs leads to an unambiguously simultaneous interpretation. Furthermore, if an imperfective verb is located in the first clause, simultaneity follows independently of the aspectual marking of the second verb. In other words, as long as the event depicted by the imperfective verb can be interpreted as incomplete/ongoing, the following verb can be perfective or imperfective. Again, this holds true for cases where aspectual marking is the only linguistic device expressing simultaneity.

---

[11] On the basis of this observation, the PNO introduced in chapter 2 can be refined: in narrative contexts, two juxtaposed simplex or marked perfective verbs yield a *sequential* reading unless marked by (a) other device(s).

[12] There are some problems with these types of examples. Consider the following case: *Nasněžilo* (Perf) a *setmělo se* (Perf). [≈It stopped snowing and it got dark.]. In this example, two marked perfective verbs occur juxtaposed in a past tense context. Under normal default assumptions, only a temporal sequence should be available in such a case. However, not all interviewed Czech native speakers agree with this temporal interpretation. A few of them interpret this example simultaneously. This is perhaps due to the influence of implicit means (pragmatics).

I also would like to point out that the type of simultaneity (e.g. overlap vs. inclusion) depicted in the examples differs depending on the aspectual constellation (opposition vs. juxtaposition) and the type of aspect (perfective vs. imperfective) involved. Additionally, marking of aspect can specify WHAT PART of a particular time interval, for instance, overlaps with some other time interval. In this sense, there is a difference between (3.3) and (3.4) (for convenience repeated here as (3.10) and (3.11)):

(3.10) Marie zavřela (Past, Perf) okno, Petr vcházel (Past, Imperf) do pokoje.
Mary *closed* the window, Peter *was coming* into the room.

(3.11) Marie *zavírala* (Past, Imperf) okno, Petr *vešel* (Past, Perf) do pokoje.
Mary *was closing* the window, Peter *came into* the room.

In example (3.10), the overlap[13] is between the point of the closing-event and the coming-event. This situation could be paraphrased as: Mary is just about to finish closing the window when Peter is coming in. Compare the following figures: (---------- event, ———— the final phase of an event):

the entire time interval of the *closing*-event   the *coming*-event

(a) ... Posttime
the final phase of the *closing*-event

(b) ... Posttime
subinterval of the *closing* event
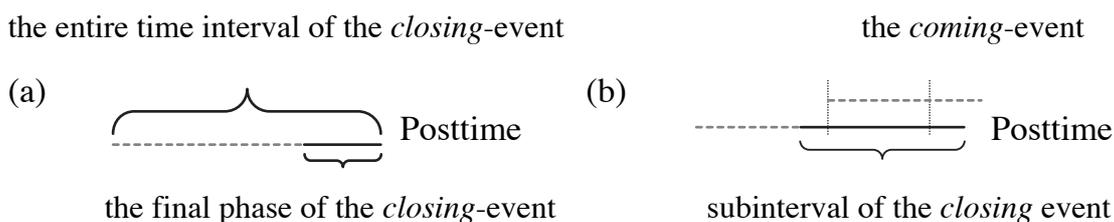
Figure 3.4   (a) Time interval expressed by the perfective verb *zavřít* in example (3.10); (b) Overlap between two events encoded in (3.10)

Example (3.11), on the other hand, depicts the inclusion of the coming-event in the closing-event. In a more schematized way:

the closing-event (Imperf)
the coming-event (Perf)

Figure 3.5   Inclusion depicted in example (3.11)

---

[13] One could argue whether or not the initial boundary of the closing-subinterval and the initial boundary of the coming-interval coincide. If the answer were yes, the simultaneity type depicted would be simultaneity - initial boundary rather than simultaneity - overlap. Since this distinction is not crucial for my point, we leave it up to the reader.

In a summary, the sheer opposition of an imperfective and a perfective verb or of two juxtaposed imperfective verbs can lead in Czech to the expression of temporal simultaneity. The interpretation of two juxtaposed perfective verbs, on the other hand, is a temporal sequence, unless marked otherwise. As it has been shown the employment of aspect alone is sufficient to express temporal simultaneity (cf. Bohnemeyer, 1998b, 2002).

3.1.2.2 Lexical means

Lexical devices represent the second major option for marking simultaneity explicitly in Czech. The purpose here is to give a broad overview of these devices.

The spectrum of lexical means is more extensive than that of aspectual devices. In contexts where temporal simultaneity is expressed, connectives such as *když* ('when'), *jak* ('as'), *jakmile* ('as soon as') *dokud* ('until') might appear. Note that these connectives are not used exclusively for simultaneity marking. For example, the most general temporal connective *když* ('when') can be also used for expressing sequentiality as in (3.12) or even non-temporal relations such as the conditional under (3.13).

(3.12) *Když* to *řekl* (Past, Perf), *napil se* vody (Past, Perf).
      When he *had said* it, he *drank* (a sip/some) water.

Example (3.12) clearly implies a temporal sequence: first he said something and then he drank some water. Note that both verbs are perfective. The next example illustrates the use of *když* in a conditional context:

(3.13) *Když* to uděláš (Perf), neřeknu (Perf) to vašim.
      If you do it, I will not tell your parents.

Finally, in (3.14) the connective *když* occurs in simultaneous contexts.

(3.14) *Když píše* (Imperf), *pouští si* (Imperf) hudbu.
      When she/he *is writing*/*writes*, she/he *plays*/*is playing* music.

Interestingly, the combination of two imperfectives is often interpreted as habitual. The example (3.14) can be paraphrased as: Every time she writes, she listens to music. Note that the habitual reading remains even without the presence of the *when* connective.

According to the Academia Grammar of Czech (Petr et al., 1987: 474), the following example expresses temporal simultaneity.

(3.15) *Když vyšel* (Past, Perf) ven, lampa automaticky *zhasla* (Past, Perf).
When he *had come out*, a/the lamp *switched off* automatically.

Notice that both situations are expressed through perfective verbs in past tense. The interpretation is as follows: after the person came out, the lamp switched off automatically. In other words, the lamp did not go out while the person was coming out. That means the events depicted in example (3.15) are ordered in a temporal sequence. How can we then account for the simultaneous interpretation suggested by the grammar book mentioned above? Temporal overlap can be achieved by relating the post-state of coming out (namely the time of being out) and the time of switching off. In this sense, (3.15) could be rephrased as: When he was outside/as soon as he stepped out of the building, the lamp went off automatically. Despite this explanation, the temporal order expressed in example (3.15) is sequential. This interpretation is also supported by the presence of two juxtaposed perfective verbs.

Another group of explicit temporal devices is formed by subordinating connectives such as *zatímco*, *mezitímco* ('while', 'whilst'). Their presence indicates that two events are simultaneous. In this manner, they differ from the previous group of subordinate connectives because they are used specially for the marking of simultaneity. These connectives obligatory take imperfective in their clauses. In example (3.16) two juxtaposed imperfective verbs are used,

(3.16) Dítě *jí* (Imperf) zmrzlinu, *zatímco* ho tatínek *pohupuje* (Imperf) na kolenou.
A/the child *is eating* an ice cream, *while* daddy *is swinging* him on the knees.

while in a subordinate construction such as in example (3.17) a perfective appears as the matrix verb and an imperfective in the subordinate clause:

(3.17) *Mezitímco* jsem se dobře *bavila* (Past, Imperf), *připlula* (Past, Perf) do přístavu velká loď.
While I *was amusing* myself greatly, a big ship *came* into the harbor.

The temporal connective *zatímco* can also have a contrastive meaning, as in example (3.18). In this case, the simultaneous reading has almost disappeared and what dominates is a simple contrastive comparison of two different situations that do not need to (but in certain contexts could) co-occur.

(3.18) *Zatímco* někteří spoluobčané se starají (Imperf) o nový park, druzí se této povinnosti vyhýbají (Imperf).

> *While* some citizens are taking care / take care of the new park, others are avoding / avoid this obligation.

As mentioned above, temporal subordination often expresses that the event represented in the subordinate clause is at some point simultaneous with the event depicted in the matrix clause. This type of subordination can also be introduced by the temporal connective *když* ('when', 'as') (spoken Czech *jak*). This temporal connective is, in contrast to the subordinate connectives discussed in (3.16) and (3.17), also used in other than simultaneous contexts (cf. examples (3.12) and (3.13)).

When the temporal connective *když* is employed, the verb in the matrix clause can either be marked for perfectivity or imperfectivity. The choice of the respective aspectual marking is dependent on the temporal characteristics of the overall event. The verb of the subordinate clause, by contrast, is frequently an imperfective:

(3.19) Žertem ho *plácla* (Past, Perf) po zádech, *jak/když procházela* (Past, Imperf) kolem.
As a joke, she *slapped* him on the back, *as/when* he *was walking by*.

The connective *až* ('when' for future tense) is used for two situations occuring simultaneously in the future. The reason for discussing future tense in this overview is that perfective verbs that are not marked for past tense have a future reading in Czech (for more detail, see section on aspect in 3.1.1).

(3.20) *Až* se *budeme vracet* (Fut, *Imperf*), *zastavíme* (Perf) *se* u babičky.
when Ref return.1pl.Fut.Imperf-S stop by.1pl.Fut.Perf-S Ref at grandma.Gen
When we *are returning*, we *will stop* by grandma's.

In the subordinate clause, the compound future form ('Aux to be + infinitive') is frequently used. As a consequence, the verb in this clause must be an imperfective. Additionally, the perfective verb of the matrix clause refers to the future (for more examples with future tense, see below).

Note that a different temporal interpretation arises when simple future (a perfective) form is used in both clauses:

(3.21) *Až se vrátíme* (Perf), *zastavíme se* (Perf) u babičky.
when Ref return.1pl.Fut.Perf-S stop by.1pl.Fut.Perf-S Ref at grandma.Gen
When we *return*, we *will stop* by grandma's.

Example (3.21) can be paraphrased as: After we return, we will stop by grandma's. In other words, it denotes a temporal sequence. This interpretation is due to the juxtaposition of two perfective verbs that occurs because the compound future form, as in example (3.20), was substituted here with the simple future form.

In future contexts, the connective *až* 'when' is not interchangeable with the connective *když* 'when', because in these contexts, the connective *když* not only expresses a temporal relation but also a condition. In this sense, the connective *když* can be exchanged with the connective *jestliže* 'if' like in example (3.22):

(3.22) *Když* / *Jestliže se budeme vracet* (Fut, Imperf),
   zastavíme (Perf) *se* u babičky.
   when/if Ref return.1pl.Fut.Imperf-S stop by.1pl.Fut.Perf-S Ref at grandma.Gen
   If we *are returning*, we *will stop* by grandma's.

Note, however, that although a simultaneous interpretation is not the primary reading a native speaker would associate with sentences like (3.22) it is not excluded.

Temporal simultaneity can also be expressed by the so-called correlative devices: *tehdy*, *když*…'then, when…'; *teď*, *když*…'now, when…'; *tak dlouho*, *dokud* 'as long as/until/provided…'; etc.

Like subordinate connectives, correlative devices express the simultaneity of two events. Nevertheless, they are treated as a special group because they differ from all the other lexical means in two aspects: (1) They always occur in pairs although each member of the pair can also appear on its own as a connective or a temporal adverbial. However, if they appear in isolation, a simultaneous interpretation is not guaranteed. (2) They focus on the interception point at which two time intervals precisely coincide and simultaneity is expressed. Consider the following set of examples[14]:

(3.23) *Došli* (Past, Perf) tam právě *tehdy*, *když ustával* (Past, Imperf)
   déšť.
   walk.3pl.Past.Perf-D there just then when stop.3sg.Past.Imperf-D rain.Nom
   They *finished walking* just *as* the rain *was about to stop*.

---

[14] The more complex examples are provided with one-to-one translations.

The reading of (3.23) is clearly simultaneous. More precisely, the first event (finishing walking) is included in the second event (rain about to stop). Note again the opposition between the perfective and imperfective aspect, this alone would be sufficient for the expression of simultaneity even if correlatives were omitted. Example (3.24) also expresses temporal simultaneity:

(3.24) Děti se učí (Imperf) i *teď*, *když* se jejich učitel cítí (Imperf) nemocný.
children.Nom.pl Ref study.1pl.Pres.Imperf-S also now when Ref their teacher.Nom feel.3sg.Pres.Imperf-S ill
The children are studying even *now*, *when* their teacher is feeling ill.

In addition to the simultaneous reading, a concessive component is part of the meaning in (3.24). This could be put forward as 'children are studying despite the fact that their teacher is feeling ill.'

Finally, example (3.25) demonstrates the use of the correlative pair *tak dlouho*, *dokud*. Depending on the context, this correlative pair can be translated into English as 'as long as', 'provided', or 'until'. In all cases, the meaning is not only temporal, but also conditional.

(3.25) Budu čekat (Fut, Imperf) *tak dlouho*, *dokud* budeš hrát (Fut, Imperf) na klavír.
wait.1sg.Fur.Imperf as long as be.2sg.Aux.Fut play.Inf.Imperf Prep piano.Acc
I'll wait *as long as/provided* you are playing the piano.

If the simple future tense form (that is usually reserved in Czech for the perfective verbs) is used instead of the long one in the first clause, the interpretation remains simultaneous, as in example (3.26):

(3.26) Počkám (Perf) *tak dlouho*, *dokud* budeš hrát (Fut, Imperf) na klavír.
wait.1sg.Perf-D as long as be.2sg.Aux.Fut play.Inf.Imperf Prep piano.Acc
I'll wait wait *as long as/provided* you *are playing* the piano.

In example (3.27), the use of the simple future tense form in the second clause leads to a syntactically odd sentence (marked as #). Thus, its temporal interpretation is unclear.

(3.27) #Budu čekat (Fut, Imperf) *tak dlouho*, *dokud zahraješ* (Fut, Perf) na klavír.
be.1sg.Aux.Fut wait.1sg.Imperf-S as long as play.2sg.Perf-D Prep piano.Acc
#I'll wait *as long as* you *play* piano *at least once*.

To complete the argument, note that the sentence in (3.27) makes perfect sense if the second predicate (to play piano) is negated as in (3.28). Due to translation difficulties, the negation does not appear in the English gloss.

(3.28) Budu čekat (Fut, Imperf) *tak dlouho*, *dokud ne*zahraješ (Neg, Fut, Perf) na klavír.
be.1sg.Aux.Fut wait.1sg.Imperf-S as long as play.2sg.Perf-D.Neg Prep piano.Acc
I'llwait *until* you *have played* something on the piano.

Example (3.28) expresses temporal simultaneity in the future. The situation can be paraphrased as: My waiting includes the time of you not playing and will be over when you have finished playing. In this sense, (3.28) also expresses a condition. The type of simultaneity expressed in (3.28) is simultaneity - final boundary (i.e., simultaneity where final boundaries coincide).

The negation (prefix *ne-*)[15] in this example indicates that the pianist is NOT playing piano (state 1) at the moment of speech and that the speaker is willing to wait until the pianist is playing piano again (state 2). Furthermore, the presence of the perfective verb suggests that the speaker will wait until the second state of playing piano is over.

Temporal adverbials and substantives with a general temporal meaning such as *moment* ('a moment'), *chvíle* ('a while'), etc., represent the largest group of explicit temporal lexical devices for marking simultaneity. Examples: *v (té) samé době* ('at (the) same time'), *po tu dobu* ('during the time'), *v tom okamžiku* ('at this/that moment'), *během* ('during').

(3.29) Nalezl (Past, *Perf*) ji *v okamžiku*, kdy už v to nedoufal (Past, *Imperf*).
He found her *at the moment* he was about to give up hope.

As we can see in example (3.29), a temporal adverbial *v okamžiku* occurs in combination with the aspectual opposition between a perfective and an imperfective verb. In other words, as pointed out earlier, the most common case is that lexical explicit temporal devices like adverbials appear in combination with aspectual marking. Some instances can be found where simultaneity is expressed by an adverbial alone. This case has already been discussed in example (3.9).

---

[15] The prefix *ne-* does not lead to perfectivisation, as other prefixes. Normally, its only function is negation.

Prepositional phrases (PP) such as *v tom* (≈ 'at the moment', 'suddenly'), *do toho* (≈ 'during'), *při čemž* (≈ 'at the same time', 'whereby') can also be employed for marking simultaneity.[16] When they occur in the same position as temporal adverbials, temporally linking two clauses, their interpretation is simultaneous. Consider the following example:

(3.30) *Stála* (Past, Imperf) před domem a *v tom přišel* (Past, Perf) její muž.
She was standing in front of the house and (suddenly) *at this moment* her husband *came* back.

The PP *v tom* indicates that from the perspective of the first protagonist (she) the second event of coming back happened suddenly. In other words, it came as a surprise. This meaning is retained when the coming-back-event is encoded with an imperfective.

(3.31) *Stála* (Past, Imperf) před domem a *v tom přicházel* (Past, Imperf) její muž.
She was standing in front of the house and (suddenly) *at this moment* her husband *was coming* back.

In the next example, *do toho* and *při čemž* are interchangeable.

(3.32) Muž *jede* (Imperf) rychle na kole. *Do toho/při čemž* na něho *mluví* (Imperf) jeho malá dcera.
A man *is riding* fast on his bicycle. *During this/at the same time* his little daughter *is talking* to him.

In comparison to the previous PP, example (3.32) expresses simultaneity of two on-going activities. Accordingly, both verbs are imperfectives. Consider the following example where the second verb is a perfective verb.

(3.33) #Muž *jede* (Imperf) rychle na kole. *Do toho/při čemž* na něho promluví (Perf) jeho malá dcera.
A man is riding fast on his bicycle. *During this/at the same time* his little daughter *says* something to him.

According to the author's native judgement, the sentence in (3.33) is not agrammatical but its interpretation is odd (marked as #). A context could be created where the little daughter speaks for the first time and this comes as a surprise to her father. In this case, (3.33) is acceptable. However, it would be more appropriate to use the PP *v tom*. In general, *do toho* and *při čemž* are

---

[16] They also can occur in other contexts, for example, as part of a full prepositional phrase *v tom novém domě (*in this new home) and need not express simultaneity.

employed where two on-going/imperfective situations are happening simultaneously.

A final note concerns the use of the connective *kdykoli(v)* ('whenever'). This connective expresses that two simultaneous situations are repeated:

(3.34) *Kdykoli(v)* vařil (Past, Imperf), děti si hrály (Past, Imperf) v kuchyni.
    Whenever he was cooking, the children were playing in the kitchen.

The connective *kdykoli(v)*, which is mostly used in written texts, can be replaced in spoken language by the primary temporal connective *když*. Iterativity is then morphologically marked on the verb of at least one clause. Consider the next three examples:

(3.35) Když vařil (Past, Imperf), *děti si* hrávaly (Past, Iter) *v kuchyni*.
    Whenever he was cooking, the children *used* to play in the kitchen.

(3.36) Když vařieval (Past, Iter), *děti si* hrály (Past, Imperf) *v kuchyni*.
    Whenever he *used* to cook, the children were playing in the kitchen.

(3.37) Když vařieval (Past, Iter), *děti si* hrávaly (Past, Iter*) v kuchyni*.
    Whenever he *used* to cook, the children *used* to play in the kitchen.

Examples (3.35) through (3.37) express the repeated simultaneity of two events. Iterativity is morphologically marked either on both verbs as in example (3.37), or only on one verb: (3.36) the first verb; (3.35) the second verb. The same effect can be achieved using the present tense.

Inchoative verbs

Inchoative verbs (phase verbs) such as *začít* 'to start', 'to begin' also belong to the group of lexical devices used in Czech for explicit marking of simultaneity. When the onset of an activity is marked by a phase verb in Czech, the complement verb that follows the phase verb MUST be an imperfective.

(3.38) začít jíst
    start.Inf eat.*Imperf*
    to begin/to start to eat

(3.39) *začít *S*-níst
    start.Inf Pref-eat.*Perf*
    to begin/to start to eat up

In example (3.38), the inchoative verb *začít* marks the starting point of an ongoing activity expressed by the verb *jíst*. According to the rule stated in the first

paragraph of this section, the verb complement must be an imperfective verb. For this reason, example (3.39) is agrammatical (marked as *).

Moreover, a phase verb can also express that an activity encoded in the complement is about to start (i.e., accessing the pretime of the activity) or that it is a habitual activity (i.e., accessing all the intervals at which the activity is carried out). This is achieved by marking the inchoative for imperfectivity or habituality. Consider examples (3.40) and (3.41):

(3.40) začí-NA-t jíst
        start.Inf.*Imperf* eat.*Imperf*
        to be in the process of starting to eat

(3.41) začíná-*VA*-t jíst o páté
        start.Inf.*Hab* eat.*Imperf* at five
        to usually begin/start to eat at five o'clock

Example (3.40) can be rephrased as to be just about to start to eat. Example (3.41) illustrates the habitual reading. Note that these additional possibilities do not change the complement verb. It is always an imperfective.

When aspectual contrast or juxtaposition is employed for simultaneity marking, inchoative verbs can specify the initial phase of the event encoded by the imperfective. With respect to aspectual juxtaposition (consisting of two imperfectives), the initial phase of both events can be explicitly marked by an inchoative verb. With aspectual opposition (consisting of a perfective and an imperfective verb), only the onset of one event, which is encoded by the imperfective verb, can be specified. This is summarized in table 3.2:

	verb 1	verb 2
aspectual opposition[17]	Perf: inchoative verb not possible!	Imperf + inchoative verb
aspectual juxtaposition	Imperf + inchoative verb	Imperf + inchoative verb

Table 3.2 Possible use of inchoative verbs with aspectual marking

---

[17] As pointed out in 3.1.2.1, both orders are possible: Perf-Imperf, Imperf-Perf.

Additionally, any other lexical device available in Czech, e.g. an adverbial, can be used. The following examples illustrate the range of possible combinations and aspect alternatives in two clause utterances:

- Inchoative verb (±imperfective marking) + aspectual contrast across two clauses (Imperfective vs. Perfective)

(3.42) Marie *začne*/*začíná* otevírat (Imperf) okno, Petr vejde (Perf) do pokoje.
Mary *begins* to *open*/*opening* the window, Peter *comes* into the room.

- Inchoative verb (±imperfective marking can be also on the phase verb) + aspectual juxtaposition across two clauses (Imperfective and Imperfective)

(3.43) Marie *začne*/*začíná* otevírat (Imperf) okno, Petr vchází (Imperf) do pokoje.
Mary *begins* to *open*/*opening* the window, Peter *is coming* into the room.

- Inchoative verb (±imperfective marking) + aspectual juxtaposition/contrast across two clauses + additional explicit temporal device (adverbial)

(3.44) *V momentě*, kdy Marie *začne*/*začíná* otevírat (*Imperf*) okno, Petr vchází (*Imperf*)/vejde (*Perf*) do pokoje.
At the moment that Mary begins to open/opening the window, Peter *is coming*/*comes* into the room.

In example (3.44), an additional temporal adverbial *v momentě* is used. It specifies the topic time at which the onset of the first event of window opening overlaps with the second event of coming into the room. Like in the previous examples, the two possible aspectual constellations are aspectual contrast or aspectual juxtaposition. Since Czech inchoative verbs ALWAYS take an imperfective complement, the aspect combination can only be varied by changing either the phase verb or the aspectual properties of the verb encoding the second non-inchoative event.

3.1.3 Summary

In principle, Czech has two options for expressing temporal simultaneity using explicit temporal devices. The first option is to use only the morphologically derived grammatical aspect - perfective and imperfective. The fact that two events are simultaneous is then expressed by combining two imperfectives (aspectual juxtaposition) or contrasting an imperfective with a perfective (aspectual contrast). The second option is to enrich the first option with

additional lexical markers such as connectives, subordinate connectives, or various temporal adverbials. In addition, the onset of an activity or its pretime can be specified when an inchoative verb is used.

In general, the simultaneity of two events can be expressed in paratactic as well as subordinate constructions. All combinations of lexical devices and verbal inflection are possible. The two restrictions are:

1. Inchoative verbs must take an imperfective verb as a complement.
2. Combining of perfective verbs without any additional marking leads to a sequential reading. A simultaneous reading is ruled out in this case.

As mentioned at the beginning of this section, the expression of temporal simultaneity in Czech has not been investigated much yet. Therefore, this account can not claim to be exhaustive; in particular, there may be exceptions for specific discourse types (e.g. narrative vs. descriptive).

Next, I examine some options of how aspect is expressed in English and German, and briefly outline the options for expressing simultaneity that are available in these two source languages, English (section 3.2) and German (section 3.3). I discuss to what degree these possibilities resemble (or differ from) those of the target language.

3.2 English

Since this study focuses on the second language acquisition of temporal simultaneity in an aspect-prominent language it is essential to understand how *aspect* is conveyed in both source languages investigated in this study. I first briefly consider English.

3.2.1 *English aspect*

This subdivision briefly outlines some features of the English aspectual system that are relevant for one of the main points of this chapter: the aspectual marking for the expression of simultaneity.

As stated in chapter 2, aspect is an abstract temporal relation and languages encode it in different ways. English has a clear system for aspect marking: the simple form can be used for depicting of the perfective, while the progressive *-ing* form denotes the imperfective, the perfect form stands for perfect aspect,

and the *be going to* construction for prospective. Consider the following examples:

(3.45) The boy *had* cook*ed* soup.

(3.46) The boy *was* cook*ing* soup.

(3.47) The boy cook*ed* soup.

The relation of TSit to TT is specified by aspect marking, which says that in (3.45) TSit precedes TT. Further, the cooking is over at TU. In (3.46), on the other hand, TT is included in TSit. This leads to a reading in which the boy was in the middle of cooking. It is left open whether this action is over at TU. In the example (3.47), TT includes not only part of the action, but also part of the time after TSit. Since TT itself is in the past (as indicated by the past tense morphology), the situation of cooking must be over at TU. This fact is expressed by the combination of past tense and perfective aspect. Note that the same holds true for (3.45) where perfect aspect is combined with past tense.

Let us now briefly discuss the English perfect aspect. English differentiates between three types of perfect: present perfect[18], past perfect or pluperfect, and future perfect. The general definition of perfect is that TT is located in posttime of TSit (cf. figure 3.6). The three perfect forms differ with respect to the auxiliaries *has*, *had*, *will have* they contain. These auxiliaries have different temporal meanings, i.e., they express different relations between TU and TT:

Present perfect	TU include TT	and	TT after TSit
Pluperfect	TU after TT	and	TT after Tsit
Future perfective	TU before TT	and	TT after TSit

Figure 3.6   English perfect

Note that pluperfect does not only express that the TT of a situation is before TU, but also that this TT is before the time of another event. In other words, English pluperfect indicates that one past event is prior to another past event (the so-called "past in past", Reichenbach, 1947; Klein 1994: 131). In summary, English marks aspect explicitly not only by the progressive *-ing*, but also by various types of perfect.

---

[18] According to Comrie (1976), there are four types of English present perfect. All these present perfect types are in line with the perfect-definition and the variation between them can be explained by the relative position of TT within the posttime and the varying lexical content.

3.2.2 Explicit temporal means

Like Czech, English can express temporal simultaneity by verbal inflection (i.e. suffix *-ing*), lexical devices (i.e. adverbials), and inchoative verbs (such as *to start*). In addition, lexical devices and inchoative verbs normally co-occur with verbal inflection marking whereas the latter can also express simultaneity in isolation.

The combination of perfective/imperfective[19] in Czech and the combination of imperfective (progressive) and perfective (non-progressive) in English result in similar effects regarding the expression of temporal simultaneity. For this reason and for the cross-linguistic comparisons made in this study, I propose the following mapping between terms and notions:

- The English imperfective form marked by *-ing* corresponds to the Czech imperfective verb form marked by the suffix *-va*.

- The aspectual interpretation of the English simple form is open. That is, it can be perfective or imperfective. However, a strong trend towards perfective reading can be observed when English simple verbs are combined with particles such as *up*, *off*.

The use of present and past perfect is discussed briefly in section 3.2.2.

This is not meant to imply an absolute one-to-one mapping. It is neither assumed that the Czech imperfective and the English progressive are exactly corresponding forms and/or express the same function, nor that the Czech simplex/derived perfective and the English simple verb forms refer to precisely the same entity. But their function with respect to the expression of simultaneity is clearly comparable.

3.2.2.1   Verbal inflection

Parallel to what has been said about Czech, English also uses verbal inflection to express simultaneity. In what follows, this option is explored in more detail.

There are three primary options for the suffix *-ing* to appear in a context with simultaneous interpretation:

---

[19] Throughout this study, the terminology perfective and imperfective is adapted in order to refer to verbal characteristics closely tied to their aspectual meaning. Hence, the English non-progressive verb form (simple form) is labeled as the perfective verb form; the progressive verb form, on the other hand, is labeled as imperfective.

(1)	The suffix *-ing* is preceded or followed by a simple verb form or by another verb marked for progressivity

(2)	The suffix *-ing* marks a participle

(3)	The suffix *-ing* is combined with a preposition.

I start with the first option (1) where the only device for expressing simultaneity is the combination of various aspectual markings.[20] In other words, the first option corresponds to the use of Czech aspectual marking for expressing simultaneity in isolation (cf. section 3.1.1 for Czech). Compare the following examples:[21]

(3.48) Mary came (Past, *Perf*) in. John was clos*ing* (Past, *Imperf*) the door.

(3.49) Mary was com*ing* (Past, *Imperf*) in. John closed (Past, *Perf*) the door.

(3.50) Mary was com*ing* (Past *Imperf*) into the house. John was clos*ing* (Past, *Imperf*) the door.

Example (3.48) illustrates the use of aspectual contrast between a simple verb form denoting perfectivity and a progressive form implying an imperfective reading. Aspectual contrast is also expressed in example (3.49) but the order of the simple verb and the progressive differs (first imperfective then perfective). Finally, example (3.50) shows that aspectual juxtaposition of two imperfectives can also be used for marking simultaneity.

The use of verbal inflection for marking simultaneity in examples (3.48) through (3.50) very much resembles the situation in Czech. There, too, the aspectual opposition of a perfective and an imperfective, or the juxtaposition of two imperfectives, results in an unambiguous simultaneous interpretation. Furthermore, like in Czech, the juxtaposition of two non-progressive simple verbs denoting perfective reading leads to temporal sequence (cf. Bohnemeyer, 1998b). Consider example (3.51):

(3.51) Mary came in (Past, *Perf*). John closed (Past, *Perf*) the door.

---

[20] Aspect can be also expressed in English using the present and past perfect tense. This is discussed in section 3.2.2.

[21] I mainly use the past tense in the examples, the present tense yields the same aspectual interpretation.

This example can be paraphrased as: Mary came in and then John closed the door. Or even more explicitly: First Mary came in and then John closed the door. In other words, the interpretation of (3.51) is sequential. This interpretation can be overruled by the presence of an explicit temporal simultaneity marker such as a temporal adverbial.

(3.52) Mary came in (Past, *Perf*). *At the same moment* John closed (Past, *Perf*) the door.

The interpretation of (3.52) is simultaneous. The use of explicit temporal devices for changing the otherwise default sequential interpretation is the same as in Czech.

The second option (2) is where the suffix *–ing*, used for expressing temporal simultaneity, marks a participle.

(3.53) John petted/was petting [a dog hang*ing* in the tree].

From a syntactic point of view, the structure in brackets, which is encoding the second event, is referred to as a *small clause*. A small clause (Stowell 1981, 1983; Chomsky 1981) is a minimal predicative structure, containing a/several argument(s), a predicate, but no tense. Furthermore, because small clauses have no independent tense they are automatically governed by the tense of the higher clause. In this way, temporal simultaneity is the default interpretation for small clauses. For example in (3.53), the event of petting (higher clause) is simultaneous with the event of hanging (lower clause predicate).[22] The presence of aspectual contrast (perfective and imperfective) or aspectual juxtaposition (two imperfectives) can also be observed in this example.

In the last option (3), the suffix *-ing* co-occurs with the preposition *by*.

(3.54) *By* pett*ing* (Imperf) a dog, John lost (Perf) his finger.

---

[22]Example (3.53) would be translated into German or Czech with a relative clause: *Jan streichelte einen Hund, der im Baum hing./Jan hladil psa, který visel na stromě.* Furthermore, Czech also has the so-called *transgressive*. Transgressive is structurally similar to a small clause, however, the condition for using it is that the subject in the lower as well as in the higher clause is the same. E.g., *Zpívajíc* (past tense transgressive) *si připravovala jídlo.* (While singing she was preparing food for herself). Transgressive is rarely used, it is found mainly in written language.

In (3.54) the petting-event and the finger losing-event are normally interpreted as simultaneous. This example illustrates a combination of a verbal inflection (*–ing*) with a lexical device (preposition). Note that (3.54) entails aspectual contrast between a perfective (to lose a finger) and an imperfective (to be petting). This last example gives us a good opportunity to move to the next section where the use of lexical means for expressing simultaneity is outlined.

3.2.2.2   Lexical means

Another possibility for explicitly marking simultaneity is the use of lexical means. The introduction of these devices and the way in which they function in English are the focal points of subsection 3.2.2.2.

For the expression of simultaneity, English makes use of subordinate connectives (such as *when*, *while*, *as*) and a wide range of temporal adverbials (such as *meanwhile*, *in the meantime*, *whilst*, *at the moment*). When employed for marking simultaneity, these devices normally co-occur with the aspectual contrast of a perfective and an imperfective or aspectual juxtaposition of two imperfectives. In one special case (juxtaposition of two verbs encoding perfectivity), they can also express temporal simultaneity in isolation.

In this section I provide a sketch of the use of lexical means for marking temporal simultaneity and their interaction with tense marking. Furthermore, I discuss the semantic differences between *when*, *while*, and *as*. Most of the observations made in this section are analogous to what has been said about Czech.

Consider the next set of examples demonstrating the use of *when*, *as*, *while*.

(3.55) John spoke to Mary *when* she felt unhappy.

(3.56) John speaks to Mary *when* she feels/is feeling unhappy.

(3.57) *As* Mary was coming in, John closed the window.

(3.58) *While* Mary was *coming* in, John closed/was closing the window.

The situations depicted in examples (3.55) through (3.58) are simultaneous. Example (3.56) additionally expresses iterativity (Whenever Mary feels unhappy, John speaks to her). Note that *as* and *while* in contrast to *when* require a verb marked with the suffix *-ing* (* indicates that the sentence is for many English native speakers agrammatical):

(3.59) *When* he came in/was coming in, she was reading a book.

(3.60) *As* he *came in/was coming in, she was reading a book.

(3.61) *While* he *came in[23]/was coming in, she was reading a book.

The difference between *when* and *while/as* shown in (3.59) through (3.61) can be attributed to the semantic variation of these connectives. Since these connectives are frequently used for depicting temporal simultaneity, their respective meaning is discussed in more detail in the next subsection.

Heinämäki (1974) points out that in a sentence with a *when* clause, both main and subordinate predicates may be durative (a state like *know* or *be ill*, or an activity like *run*), non-durative (an achievement, which occurs at a particular point in time, like *find* or *die*) or accomplishments (an activity and its result, which expresses completion, such as to *write a novel*). Moreover, she conclusively shows that the intervals defined in the two clauses may overlap or occur in succession. Causal readings which occasionally emerge from the connection of clauses with *when* are, in Heinämäki's view, implicatures generated through the principle of relevance (see Grice, 1975).

Heinämäki (1974: 49-51) further demonstrates that the connection of clauses with the subordinate connective *while* is associated with two constraints which restrict its usage to a set of possibilities narrower than those permitted with *when*. The first constraint is that non-durative predicates cannot occur in *while* clauses; *while*, unlike *when*, requires the predicate of its clause to take place over a (longer) time interval, not over a very short time interval (single point in time). Second, the clause introduced by *while* must denote a period that comes to an end; i.e. the subordinate clause must express a temporary state of affairs. Thus, sentences like (3.62) are odd, but if the connective is changed to *when*, the resulting sentence in (3.63) is all right:

(3.62) *Mary wrote a novel *while* she was a mother[24].

(3.63) Mary wrote a novel *when* she was a mother.

---

[23] However, if the type of the verb is changed, sentences of this type become grammatical: *While he played solitaire, she was reading a book.* Steve Levinson provided this example.

[24] Only if being a mother is interpreted as a temporary state (bearing a child) of if Mary's child is no longer alive would the sentence in (3.62) be considered correct.

While is, however, somewhat less constrained than *when* in one respect: the moment of utterance can be included in the overlapping period in *while*-structures, but not in *when*-structures. That is, (3.64) is acceptable, but (3.65) is not, unless one reads *when* as *whenever*; even then, the result is marginal at best (# indicates that the interpretation is odd):

(3.64) Mary is washing the dishes *while* John is cooking dinner.

(3.65) #Mary is washing the dishes *when* John is cooking dinner.

As seems at first to be synonymous with *while*. For example:

(3.66) John cut himself *while* shaving.

(3.67) John cut himself *as* he was shaving.

The Oxford English Dictionary defines temporal *as* as *while*. But there are restrictions on the usage of *as*. According to Silva (1991), a special kind of simultaneity - one of time, place, and focus - leads speakers to prefer *as* to *when* or *while* in describing certain simultaneous relations. *As* seems to require that the actions specified in the predicates of the two clauses are seen as an essentially unitary event. In addition, the subordinate predicate may not be a stative. Consider example (3.68):

(3.68) *While* he was senator, Jones served on a number of committees.

The conjuction *while* in example (3.68) can be changed to *when*, but not to *as* without triggering a causal rather than a temporal reading. In summary, Silva concludes (1991: 649):

> *When*, *while*, and *as* are used in English to mark a continuum of simultaneity, with *when* being the least specific as to the exact temporal relationship among events and the least constrained as to the nature of the predicates it can connect, and *as* being the most specific and most constrained, leaving *while* to occupy the middle ground. Thus, in many contexts, *when* can replace *while* and *as*, and *while* can replace *as*, but the direction of the relationship cannot be reversed (emphasis by B.Sch.).

Simultaneity can also be marked by temporal adverbials (e.g. *during*, *simultaneously*, *in the meantime*). In order to illustrate their use, consider the following examples:

(3.69) Mary was waiting to hear her results. *In the meantime*, she remained positive.

The temporal adverbial in example (3.69) marks that Mary's waiting and remaining positive are simultaneous. This example can be paraphrased as: During the time when Mary was waiting, she remained positive. Note that the subject in both clauses is identical (for more detail on general factors such as number of protagonists, see section 3.5.1 in this chapter).

Example (3.70) demonstrates the use of the temporal adverbial *simultaneously*:

(3.70) Peter is listen*ing* (Imperf) to music and translat*ing* (Imperf) *simultaneously*.

This example illustrates a total overlap of two on-going situations. Simultaneously is interchangeable with the temporal adverbial *at the same time*:

(3.71) Peter is listen*ing* (Imperf) to music and translat*ing* (Imperf) *at the same time*.

Note that in both cases – example (3.70) and (3.71) – the adverbial can be omitted without changing the simultaneous interpretation. This is due to the presence of two juxtaposed imperfective verbs.

A different simultaneity type is depicted when the temporal adverbial *at the moment* is used:

(3.72) *At the moment* when the girl was leav*ing* (Imperf) the park, her dog appear*ed* (Perf) from around the corner.

The first event leaving the park and the second event appearing from around the corner are simultaneous in that they partially overlap. Note that the presence of the *when* connector is required. To omit it is possible but then the temporal adverbial changes from *at the moment* to *at that moment*. Additionally, it moves to another position within the clause. Consider example (3.73):

(3.73) The girl was leav*ing* (Imperf) the park. *At that moment*, her dog *appeared* (Perf) from around the corner.

In (3.69) through (3.73), lexical devices were combined with aspectual marking (contrast between Perf-Imperf or juxtaposition of two Imperf). As mentioned earlier, the co-occurrence of aspectual and lexical marking in simultaneity contexts is common, but not obligatory. Consider the following example:

(3.74) Mary *came in* (Past, Perf). *At the same moment* John *closed* (Past, Perf) the window.

In (3.74), the adverbial overrides the default sequential reading that is linked to the two juxtaposed perfectives. For more detail, see section 3.2.3.

As described above, simultaneity can be expressed in the past tense (examples (3.56) through (3.58)). There are other temporal domains in which simultaneity can be expressed. For example, the future domain:

(3.75) They *will celebrate* that Jack is back in town.

The description and discussion of this domain for English would go beyond the scope of this study because this piece of information is not crucial for the analysis and interpretation of the data central to this book. [25]

The use of present perfect in combination with an additional explicit *temporal* device (e.g. *when* or *while*) can also refer to multiple simultaneous situations. Consider the following two examples (modified after Declerck 1991: 30, 32):

(3.76) I *have* often *cried when* I have felt lonely.

(3.77) Ever since we moved to Nijmegen I *have been working while* you *have been doing* nothing.

Example (3.77) expresses temporal simultaneity and also iterativity. Present perfect can also refer to two simultaneous situations without the presence of an additional device. Consider the following example:

(3.78) Petra *has lived* in Nijmegen for several years but she *has worked* at the MPI since last year.

In example (3.78) the living-event and the working-event have different onsets, however, they overlap. Overall, the combination of two present perfects leads to a simultaneous interpretation. The combination of simple past and past perfect, in contrast, frequently results in a temporal sequence:

(3.79) Peter *had closed* the window and Mary *came* in.

Example (3.79) can be paraphrased as: Just when Peter had closed the window, Mary entered the room. In other words, the closing-event is over when the

---

[25] The reason that the future tense domain was discussed for Czech (see section 3.1.1) is that Czech non-past perfective verb forms are assumed to have future tense reading.

coming-event starts. The temporal relation between the two events is sequential.

Sometimes, a distinction is made between potential endpoints [(a)telicity] and actual temporal boundaries [(un)boundedness] (Declerck 1989, Depraetere 1995). This separation makes it possible to account for different temporal interpretations that result from substituting the past perfect for a past tense. Consider the following examples (from Depraetere 1995: p. 14):

(3.80) Now that she was alone she lost all the inhibitions which *had confined* the poetry in her soul.

(3.81) Now that she was alone she lost all the inhibitions which *confined* the poetry in her soul.

The past perfect in (3.80) refers to a period of time before the main clause situation whereas the past tense in (3.81) represents the relative clause situation as a state that is simultaneous with the main clause. In more general terms, changing a past perfect reference sentence with an atelic verb into a past tense sentence will coincide with a change from bounded to unbounded.

Inchoative verbs

Like in Czech, English inchoative verbs are a subgroup of lexical devices and play a special role in the marking of simultaneity. As may be recalled, Czech ichoative verbs explicitly mark the onset of a time interval and require a simplex or derived imperfective verb as their complement. The first observation also holds true for English. The latter, however, does not necessarily match up because phase verbs can also be combined with non-progressive verbs (such as *to lick*, *to lick off*, etc.). Compare the following examples:

(3.82)   He *begins* to *lick* the ketchup and his brother comes in.
Czech: Začne lízat kečup a jeho bratr vejde dovnitř.
             begin.*Perf* lick.*Imperf*

(3.83)   He *begins* lick*ing* the ketchup…
Czech: Začíná lízat kečup
             begin.*Imperf* lick.*Imperf*

(3.84)   He *begins* lick*ing off* the ketchup…
Czech: Začne/Začíná slízávat kečup.
             begin.*Perf*/*Imperf* lick.Imperf

(3.85) He *begins* to *lick off* the ketchup…
Czech *Začne/Začíná slízat kečup.
begin.*Perf*/*Imperf* lick.Perf

The presence of an inchoative verb in Czech calls for a simplex or marked imperfective verb. The English equivalents for the marked imperfective are the forms *licking* (*off*) - (3.83) & (3.84). The simplex form *lick* in example (3.82) is an activity and roughly corresponds to the Czech simplex imperfective.

Note that the combination of a phase verb with a perfective telic verb in (3.85) is only possible in English. This could be explained, for example, by applying Declerck's distinction between (a)telicity and (un)boundedness (1989): the phase verb makes the otherwise telic predicate *to lick off* unbounded. Why this operation is not feasible in Czech remains a question for further research.

3.2.3 Summary

The range of explicit devices for expressing temporal simultaneity in English is very similar to the picture in the Czech language. There are two basic groups of means: (1) means of verbal inflection involving marking of aspect (perfect *have*/*had* and progressive *-ing*), and (2) lexical means ranging from subordinate connectives such as *when*, *while* to various temporal adverbials (*at the same moment*). These devices can always occur in combination. Both types of devices can express simultaneity on their own. This is accomplished either by verbal inflection (aspectual opposition/juxtaposition) or via lexical means (adverbials) where the latter overrules the default sequential interpretation of two juxtaposed perfectives.

Finally, like in the target language Czech, the beginning of an interval can be specified by an inchoative verb, which does not need to be complemented by a verb marked for imperfectivity.

It could well be that at a more detailed level of semantic and/or syntactic analysis, the means for expressing simultaneity in Czech and English differ (for example one could argue that the semantic contribution of the progressive marker *-ing* differs from the one of the Czech imperfective). Yet, for the purpose of this study it is sufficient to have established the most relevant similarities and analogies between the two languages.

3.3 German

In this section, I explore the way aspect is conveyed (or rather is not expressed) in German. Some attention will also be paid to tense, because interestingly, German tense forms carry not only temporal, but also aspectual information. After this short outline I continue to explore the linguistic means that can be used in German for the expression of simultaneity.

3.3.1 German tense and aspect

To a large extent, linguists agree that there is no grammaticalized aspect marking in German. If aspect is expressed at all, then it is achieved by complex *periphrastic constructions*. In other words, several possibilities of relating TT and TSit are reduced to a single form. I address the issue of whether or not German marks aspect in a later paragraph in this section.

As far as tense is concerned, there is little agreement regarding the number of tense forms. Traditionally, six tense forms are assumed: Futur I, Futur II, Präsens, Präteritum, Perfekt, Plusquamperfekt. Futur II and Plusquamperfekt are not discussed here because their meaning depends on the analysis of Futur I and Perfekt. Consider the following figure:

Futur I	TU BEFORE TT
Präsens	TU INCL TT or TU BEFORE TT
Präteritum	TU AFTER TT
Perfekt	TU AFTER TT

Figure 3.7   Analysis of selected German tenses

All these forms also have an aspectual meaning: TT AT TSit. Although there is not explicit differentiation between perfective and imperfective here, a reading of perfect is excluded. In other words, TSit is always simultaneous with TT in one way or another, but does not need to be identical with it.

I am aware of the shortcomings of such an analysis. Präsens, for example, does not only express the present but also has a future time reference. In this sense, it overlaps with Futur I. Moreover, the future reading of Präsens depends on the inherent lexical features of the verb (for more detail, see Ehrich 1992). In reverse, the German Präsens might also point to the past in cases of historisches Präsens. These cases, however, are not crucial for the purpose of this study, which covers the use of aspect, not tense, in the context of the expression of simultaneity.

The fact that this analysis attributes the same meaning to German Präteritum and Perfekt appears slightly problematic. The deictic interpretation of Präteritum and Perfekt is the same. It can be expressed as TU after TT (cf. figure 3.7). For illustration, compare the next two examples:

(3.86) Er arbeitete.   (Präteritum)
         He worked.

(3.87) Er hat gearbeitet.   (Perfekt)
         He has worked. [= He worked]

As far as the form is concerned, the Perfekt corresponds to the English present perfect but they differ substantially in their respective meanings. Some analyses suggest that the difference between Präteritum and Perfekt is not in the semantic but rather in the stylistic domain.[26] Klein (1994: 128) argues against this analysis considering the interaction of these two tense forms with some adverbials such as *schon* ('already'). Consider the following:

(3.88) Hans *aß* schon.
         Hans ate already.

(3.89) Hans *hat* schon *gegessen*.
         Hans has already eaten.

In (3.88), Hans already ate at some time in the past. In (3.89), however, the meaning is that at this very moment, Hans' eating is already over. The appropriate context for example (3.88) would be that Hans, while waiting for his girlfriend, had something to eat because he was hungry and his girlfriend was late. The appropriate context for example (3.89) would be that Hans turns down an offer to share the meal because he has eaten before. In this way, in a fitting context the German Perfekt can have the function of the English present perfect, lending it an ASPECTUAL function (for more detail, see Thieroff 1992, Klein 2000).

---

[26] It is generally assumed that Präteritum is much less common in spoken German (with the exception of auxiliaries and a couple of modal verbs) than Perfekt and it is usually assumed that Präteritum is a common form in the context of literary narration. In other words, Präteritum seems to be a stylistic device used in a restricted number of special contexts, while Perfekt is the most frequently used (default) tense for expressing past reference. In addition, there are dialectal differences in the use of these two tense forms; southern German dialects hardly use the Präteritum.

As far as aspect in German is concerned, another issue should be raised here: the meanings of Plusquamperfekt and Futur II. These two relations combine a tense meaning with an aspectual meaning (see above for a similar discussion of the English -*ed* marker):

Plusquamperfekt	TU AFTER TT	and	TT AFTER TSit
Futur II	TU BEFORE TT	and	TT AFTER TSit
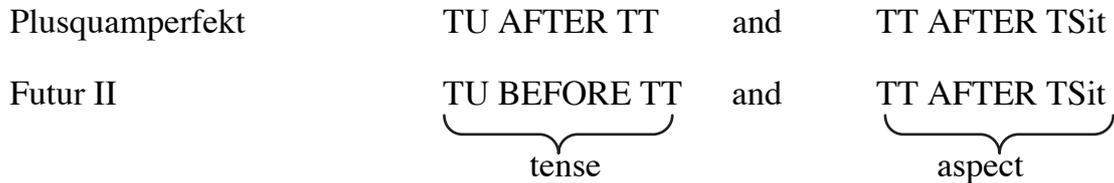
<div align="center">tense   aspect</div>

Figure 3.8   Analysis for German Plusquamperfekt and Futur II

In this sense, some German verb forms (as in figure 3.7) have not only a tense meaning but also an aspectual meaning: TT AFTER TSit. In addition, Präteritum, Perfekt, Plusquamperfekt and Future II express aspectual meaning: TT AFTER TSit. But note that forms like Plusquamperfekt and Future II rarely occur in spoken language.

It is true, however, that German as opposed to Czech or English does not grammaticalize aspect in a comparable way. There is no systematic morphological marking for expressing aspectual properties in all tenses. Note, however, that there are ways to overtly express imperfective aspect (i.e. the equivalent of the English progressive form): the adverb *gerade* 'just', the more complex paraphrases *dabei sein zu* + infinitive, and *am* + infinitive + *sein*. Also, German Perfekt can have an aspectual function. These observations are very important for the analysis and interpretation of the relevant learner data (see chapter 7).

Before turning to the explicit temporal devices used in German for the expression of simultaneity, I briefly discuss the use and function of German verbal prefixes, as they play a significant role for German speakers acquiring the Czech aspectual system (cf. chapter 8).

German distinguishes between two types of verbal prefixes: separable prefixes (e.g. the prefix *auf-* in *aufstehen* 'to get up': Sie *steht* jeden Tag um sieben *auf* 'She gets up every day at seven') and inseparable prefixes (e.g. the prefix *zer-* in *zerstören* 'to destroy': Er *zer*-störte die ganze Burg 'He destroyed the entire castle'). Furthermore, adjectives/adverbials (e.g. *voll*-tanken 'to fill up', *wieder*-sehen 'to see again') can also function as prefixes.

It has been noted that "some prefixed verbs can have a perfective meaning" (Comrie 1976: 90), but there is no systematic pairing of forms with perfective

and imperfective meaning (regarding this possibility in Czech, see section 3.1.1). Moreover, in general, there is no way of deriving forms with imperfective meaning from verbs with perfective meaning. Nevertheless, it is possible to express perfective meaning by means of verbal prefixation modifying the Aktionsart of a verb. This is apparent when past tense is used:

(3.90) Gestern um sechs Uhr hatte Peter *gegessen*.
　　　　 Yesterday at six o'clock Peter had eaten.

(3.91) Gestern um sechs Uhr hatte Peter *auf-gegessen*.
　　　　 Yesterday at six o'clock Peter had eaten up.

Example (3.90) can be interpreted in two ways: (a) Peter's meal was over at six o'clock, or (b) Peter was still eating at the given TT. In (3.91), however, the particle *auf-* makes the verb *essen* telic and indicates that the end state of eating has been reached. That is, only the reading under (a) applies here as the verb *aufessen* in example (3.91) encodes completeness and can be interpreted as perfective.

The same argumentation holds true for other prefixed verbs such as *kämpfen* 'to fight possibly without achieving anything', and *erkämpfen* 'to achieve something by means of a fight':

(3.92) Er hat sich die Freiheit *er-kämpft* und jetzt ist er frei.
　　　　 He fought for his freedom and now he is free.

(3.93) Er hat für seine Freiheit *gekämpft*, aber er ist immer noch im Gefängnis.
　　　　 He fought for his freedom but he is still in jail.

Example (3.92) shows that *erkämpfen* entails reaching some terminal point while this is not the case for the verb *kämpfen*, which is illustrated in (3.93). The following figure summarizes this:

Aktionsart	Aspectual meaning
essen/kämpfen	(+ durative, not specified – terminative/atelic)
*auf*essen/*er*kämpfen	(– durative, perfective + terminative/telic)

Figure 3.9　　　　　Aspectual meaning in German

Note that a similar claim can also be made for English. There too, particles and adverbials can be used for perfectivization purposes. The difference between German and English is twofold: (a) the use of verbal prefixes and other

linguistic devices for perfectivization is more frequent in German than in English; and (b) the perfectivization in English, which is restricted to the use of particles and adverbials, results in a (syntactically) more complex structure where other elements can be placed between the verb and the particle (e.g. in the infinitive - the particle follows rather than precedes the verb - *to eat* [all the good pears] *up* vs. [alle guten Birnen] *auf*-essen).

In summary, English, Czech and German differ considerably with respect to aspect marking. The first two languages grammaticalize aspect, but no such system exists in German. However, it has been shown that despite traditional assumptions, German has, in addition to periphrastic constructions or temporal adverbials, its own peculiar ways of expressing aspect. For instance, the German Perfekt can have an aspectual function. Furthermore, Plusquamperfekt and Futur II combine aspectual meaning with tense meaning. In this regard, German shows some similarities with English.

I also sketched the use of prefixes for encoding perfective meaning in German and of particles in English. In general, my view on this issue is in line with Comrie (1976: 94):

> The languages examined that have prefixes or verbal particles with, at least sometimes, aspectual (perfective) significance, can be arranged along the following scale according to the extent to which they have a fully developed system of oppositions between perfective and imperfective, starting with those languages with the least fully developed system: English and German, Hungarian, Baltic, Georgian, Slavonic.

Under this view, German and Czech represent the opposite poles as far as the basic aspectual opposition between Perf and Imperf is concerned. Yet, in regard to the respective verbal prefixes used in a more or less systematic way for (a) modifying the Aktionsart and (b) assigning perfective meaning to the verb, German and Czech demonstrate striking similarities. These observations are crucial for the interpretation of the learner data in chapter 7 and chapter 8.

3.3.2 Explicit temporal means

Compared to Czech and English, the repertoire of explicit temporal expressions of simultaneity available in German is rather limited. Since there is no verbal inflection for encoding temporal simultaneity in German, the more relevant domain is the domain of lexical devices. Here, German employs (a) various

temporal adverbials (e.g. *währenddessen*, *in der Zwischenzeit*, *im gleichen Moment*), (b) subordination: connectives (*als*, *wenn*).

Before I focus on the use of lexical means, I provide a brief sketch of two other options that can be used in German for the explicit expression of simultaneity. The first option (1) is nominalization, the second (2) is the use of periphrastic constructions.

(1) Nominalization serves as a further, syntactic device for merging two co-occurring events within one sentence. Nominalization combines a nominalized verb with a preposition marking explicit simultaneity (*am Schreiben*, *beim Essen*). Consider the next sentence:

(3.94) Maria ist *am Essen*, Hans schaut aus dem Fenster und tut nichts.
Mary *is eating*, Hans is looking out of the window (and) doing nothing.

Nominalization can be combined with other explicit temporal devices, such as adverbials - example (3.95) - or subordinate connectives - example (3.96):

(3.95) *Während* des Spielens schlief das Baby in der Küche ein.
While playing, the baby fell asleep in the kitchen.

(3.96) *Als* Maria *am Schreiben* war, schlief Hans in der Küche ein.
When Mary *was writing*, Hans fell asleep in the kitchen.

The second option (2) is to use infinitival expressions in a periphrastic construction, as in example (3.97) (in combination with the subordinate connective *als*):

(3.97) Er war *dabei* einen Brief *zu schreiben*, *als* sie angerufen hat.
He *was writing* a letter *when* she called him.

The use of the adverbial *dabei* in periphrastic constructions like in example (3.97) is obligatory. However, *dabei* can also be used separately for expressing simultaneity: *Ich habe gekocht. Dabei habe ich mich verbrannt.* (for more detail, see section 3.3.1). Periphrastic constructions can not only be combined with other explicit devices (cf. example (3.97)) but also with nominalization. Consider the following example.

(3.98) Er war *dabei* einen Brief *zu schreiben*, *als* sie gerade *am Gehen* war.
He *was writing* a letter *when* she *was* just[27] *leaving*.

---

[27] The German adverb *gerade* is omitted in the English translation, since the progressive form makes it superfluous.

Although nominalization and periphrastic constructions, are theoretically accessible to speakers of German, speakers may make use of them to different extents. Corpus analyses have shown that the syntactic *am*-construction is frequent among German speakers from the Cologne area. In other German regions, however, this construction is rather rare. Additionally, I expect that in narrative discourse, speakers will use more adverbials and/or subordinate connectives than any other possible devices.

3.3.2.1   Lexical means

Similar to the other two languages, the range of lexical means that are employed for explicit simultaneity marking is quite wide. Here, I illustrate and discuss the use of (a) some temporal adverbials and (b) subordinate connectives. Let us first consider the use of sentence-modifying adverbials. Consider the following example demonstrating the use of the adverbial *während*.

(3.99) *Während* des Fussballspieles öffnete Hans das Fenster.
         During the soccer game Hans opened the window.

The adverbial *während* signals that the time interval of the window-opening-event is included in the time interval of the soccer game (that for pragmatic reasons was most likely watched on TV). In this sense, (3.99) could be rephrased as: During the time when Hans was watching a soccer game he opened the window.

Temporal adverbials such as *währenddessen* (in the meanwhile) but also *gleichzeitig* (simultaneously) or *zugleich* (at the same time) are employed in order to mark the simultaneity of two coordinate sentences. Further, *währenddessen* is preferred when each clause has a different subject - example (3.100). *Gleichzeitig* and *zugleich*, on the other hand, occur when the subject in both clauses is the same as in example (3.101):

(3.100)   *Peter* kümmerte sich um die Fahrkarten, *währenddessen* besorgte
            Hans den Fahrplan.
            Peter looked after the tickets, *meanwhile Hans* was getting the
            schedule.

(3.101)   *Peter* kochte das Mittagessen, *gleichzeitig / zugleich* kümmerte *er*
            sich um die Kinder.
            Peter cooked lunch, *simultaneously / at the same* time *he* was
            looking after the children.

The next example illustrates the use of another temporal adverbial:

(3.102)   Maria kam nach Hause. *Im gleichen Moment* schaute Hans hoch.
           Maria came home. *At that moment*, Hans looked up.

Im gleichen Moment implies an overlap of the two situations depicted in (3.102). In other words, the simultaneity type total simultaneity is represented in this example.

Let us now turn to the use of subordination connectives (b) in the context of temporal simultaneity. Consider example (3.103). Note that the subordinate connective *als* is used exclusively in anteriority contexts (past reference).

(3.103)   *Als* Hans in Berlin studierte, arbeitete Maria in Italien.
           When Hans studied in Berlin, Maria was working in Italy.

This example could also be paraphrased as: During the time Hans studied in Berlin Maria was working in Italy. The denoted simultaneity type is inclusion but total simultaneity is not excluded. In other words, it is assumed that on the basis of the verb types (activity, durative) and perhaps also for pragmatic reasons that the two situations totally overlap or the working-event is included in the studying-event.

Als can also appear in contexts where only a short time interval is implied:

(3.104)   Als Maria das Fenster öffnete, kam Hans ins Zimmer.
           As Maria opened the window, Hans came into the room.

Example (3.104) can be rephrased as: The moment Maria opened the window, Hans entered the room. In other words, in contrast to (3.103), in German the overlap of the two situations is only partial and shorter. The difference between (3.103) and (3.104) is also reflected in the English translation: the latter is introduced by the subordinate connective *when*, the former by *as*.[28]

Like in Czech or English, the temporal *wenn* (when) is not always separated from its conditional interpretation. Conditional sentences presuppose and often include the temporal characteristics of *wenn*. Therefore, the interpretation of such sentences is often ambiguous between a temporal - example (3.106) - and

---

[28]Using the past perfect, the interpretation would result in a sequential interpretation: *Als Maria das Fenster geöffnet hatte, ist Hans ins Zimmer gekommen.* This is because the past perfect expresses anteriority.

a conditional reading - example (3.107). In contrast, example (3.105) allows for both readings:

(3.105)   Wenn du nach Hause gehst, kannst du dir ein Buch kaufen.

(3.106)   Während der Zeit, wo du auf auf dem Weg nach Hause bist,
           kannst du dir ein Buch kaufen.
           When you are on your way home, you can buy for yourself a book.

(3.107)   *Falls* du nach Hause gehst, kannst du dir ein Buch kaufen.
           If you go home, you can buy for yourself a book.

The temporal reading is exemplified in (3.106): the first event of going home and the second event of buying a book are simultaneous. In (3.107) the meaning of *wenn* is in the sense of 'in the case' (German *falls*). Therefore, the event of going home is merely a condition for buying a book. The time interval of buying a book does not necessarily need to overlap with the time interval of going home.

It is generally true that temporal simultaneity can be expressed in coordinate contexts by temporal adverbials as well as in subordinate contexts by subordinate connectives. This is shown in the examples (3.108) and (3.109) respectively:

(3.108)   Wir saßen beim Essen, *da* klingelte das Telefon.   (*temp. adverbial*)
           We were dining, just then the phone rang.

(3.109)   *Als* wir beim Essen saßen, klingelte das Telefon.   (*connective*)
           When we were dining the phone rang.

Furthermore, linguistic expressions (adverbials and connectives) used in subordinate clauses correspond to those expressions (temporal adverbials) that are employed in coordinate clauses when temporal simultaneity is expressed. See table 3.3:

Subordination	Coordination
während (expressing duration)	währenddessen, während dieser
solange (the same duration)	so lange
seit, seitdem (the onset in the past)	seither, seitdem
als	da
so oft (repetition)	jedesmal, immer

Table 3.3   Correspondence between subordinate and coordinate linguistic devices

Aksu-Koç & von Stutterheim (1994) point out some other devices that contribute to the interpretation of two situations as simultaneous. Expressions which possess a durative, imperfective meaning make an utterance temporally unbounded. If such an utterance is preceded or followed by one with no specific temporal reference, then the two utterances will be interpreted as simultaneous. Devices of this sort are: *immer* 'always', *gerade* 'just now', *immer noch* 'still', etc.

Inchoative verbs

Like Czech and English, German also has the possibility of employing phase verbs when expressing temporal simultaneity. Recall that the complement verb that follows a phase verb in Czech is more restrictive than in English. In Czech, only imperfectives are admissible, whereas in English, phase verbs can also be combined with non-progressive verbs.

As far as the expression of simultaneity is concerned, German phase verbs such as *beginnen* ('to begin'), *anfangen* ('to start') can be used to mark the onset of a situation depicted by the complement verb. Consider:

(3.110)   Er *begann/fing an zu essen*, *als* Petra das Zimmer betrat.
           He *began/started to eat when* Petra entered the room.

In example (3.110) the complement is an atelic and unbounded on-going activity. The phase verb *anfangen* marks the inception point of the eating-event. Consider the next example which is acceptable in German, but rather unusual from a pragmatic standpoint:

(3.111)   Er *begann/fing an* die Suppe *aufzuessen*, *als* Petra das Zimmer betrat.
           He *began/started to eat up* the soup *when* Petra entered the room.

Like in the previous example, the situations in (3.111) are simultaneous. But in contrast to (3.110), the combination of the complement verb *aufessen* - a telic, bounded predicate - and a phase verb is grammatical. This combination, however, can lead to odd sentences, an in example (3.112) (marked as #):

(3.112)   #Die Knospe *begann/fing an zu erblühen*, *als* der Frühlingswind die Luft erwärmte.
           The bud *began/started to bloom when* the spring wind warmed up the air.

Although example (3.112) expresses temporal simultaneity, the combination of a phase verb and the telic bounded predicate *erblühen* where the prefix *er-* expresses ingressivity is ruled out according to some German native speakers.

This effect is due to pragmatic information, for instance the length of time interval that is associated with the complement verb. Verbs such as *hereingehen*, *reinwerfen* indicate only a short time interval and verbs like *erblühen* are explicit onset markers. Hence it would be odd to mark the inception point of a situation denoted by such verbs. In contrast, the time interval of verbs like *aufessen*, *zerstören*, *vertreiben* is longer and therefore it makes sense to mark the onset of the situation explicitly. Furthermore, the terminal point that is part of the semantics of such verbs need not be achieved. This makes it possible to combine particle verbs with phase verbs:

(3.113) Er *begann/fing an die Suppe aufzuessen*, aber dann mußte er weg
und hat die Suppe doch nicht aufessen können.
#He *began/started to eat up* the soup but then he had to go and could
not finish the soup after all.

To summarize, inchoative verbs can be used when temporal simultaneity is expressed. The complement they require can be atelic as well as telic. Telic verbs, when employed in combination with a phase verb, transfer from bounded to unbounded. When compared with the other two languages, German inchoative verbs function similarly to those in English.

3.3.2 Summary

In comparison to the other investigated languages, German displays a rather simple pattern regarding the use of explicit temporal devices for marking simultaneity. It has a wide range of lexical means represented predominately by temporal adverbials and further also by subordinate connectives. In addition, there are two other ways to mark simultaneity: the *am*-construction and periphrastic infinitival expressions. German, like Czech and English, also operates with inchoative verbs when expressing temporal simultaneity. With respect to the type of complement required by phase verbs, German is similar to English.

3.4 Time-relational analysis and the use of explicit temporal devices

Before continuing with the description of explicit atemporal devices, we need to forge some links between the theoretical analysis of temporality on the one hand, and the use of explicit temporal devices (aspectual marking and temporal adverbials) for the expression of simultaneity on the other. Only explicit temporal devices were selected for this purpose because their use is the main focus of the present study. Consider the following example:

(3.114)   Yesterday at two o'clock, Mary closed the window. John was coming in.

Recall that the simultaneous reading of (3.114) is based on aspectual contrast. But how can we account for the simultaneous reading from a theoretical point of view?

Let us begin with the role of the topic time (TT). According to this analysis, topic time (TT) is the time for which the assertion is made. In the example above, the TT is explictly specified by the adverbial *yesterday at two o'clock*. This TT is interpreted as identical for both clauses in (3.112). In other words, the closing-event and the coming-in-event have the same TT.

Yet, each event has a specific time of situation (TSit = the time at which a particular event takes place). Each TSit is related to the TT. This relation has previously been defined as aspect. In example (3.112), the first situation is perfective, the second situation is imperfective.

In the perfective aspect, TT must overlap with TSit and the posttime of TSit. For Czech or English, the target state (e.g. window closed) is treated as the relevant part of the entire TSit.[29] The imperfective aspect is defined as TT *included* in TSit. Note that the time of the first (TSit-a) and the second situation (TSit-b) partially overlap:

---

[29] It is also be possible to understand the *source state* as the relevant part of the TSit. This, however, would shift the focus of the current analysis.
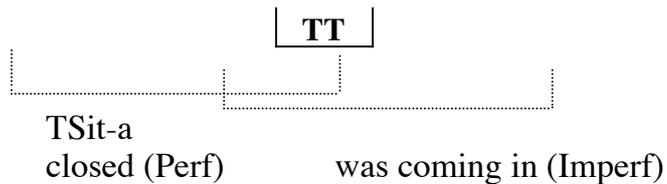
TSit-a
closed (Perf)   was coming in (Imperf)

Yesterday at two o'clock, Mary *closed* the window. John *was coming in.*

TSit-a	the time at which Mary closed the window
TSit-b	the time at which John was coming in
TT	yesterday at two o'clock
Perf	TT at and in the poststate of TSit-a
Imperf	TT fully included in TSit-b

Figure 3.10   Aspectual contrast

Aspectual juxtaposition of two imperfectives can be accounted for analogously to the analysis of aspectual contrast. Compare the next figure:
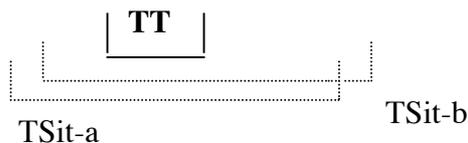
TSit-a   TSit-b

Yesterday at two o'clock, Mary *was closing* the window. John *was* coming in.

TSit-a	the time at which Mary was closing the window
TSit-b	the time at which John was coming in
TT	yesterday at two o'clock
Imperf	TT fully included in TSit-a & TSit-b

Figure 3.11   Aspectual juxtaposition

The more challenging case is the juxtaposition of two perfective verbs that normally lead to a sequential interpretation (3.115) unless marked by another *explicit* device. Then the interpretation can be simultaneous (3.116). Consider the following example set:

(3.115)   Yesterday at two o'clock, Mary *closed* the window. Peter *came in.*

(3.116)   Yesterday at two o'clock, Mary *closed* the window.
              At the same time Peter came in.

TSit-a   **TT 1**   TSit-b   **TT 2**

Yesterday at two o'clock, Mary *closed* the window. John *came in*.

TSit-a	the time at which Mary closed the window
TSit-b	the time at which John came in
TT 1	yesterday at two o'clock
TT 2	later/then (not overt)
Perf 1	TT at and in the poststate of TSit-a
Perf 2	TT at and in the poststate of TSit-b

Figure 3.12   Two juxtaposed perfectives

It can be seen in figure 3.12 that (a) TSit-a and TSit-b are sequential, and (b) each TSit is hooked up to a SPECIFIC TT. TT1 has scope only over the first event of window closing. The second event of coming in is related to TT2 that is not explicitly specified. The latter TT is assumed because of PNO. This principle says that in the normal case, events are reported in the order in which they occurred. The temporal shift from TT1 to TT2, which is motivated by the juxtaposition of two perfectives, is the reason for the sequential reading of example (3.115).

Finally, in example (3.116), the temporal sequence is overruled by the temporal adverbial *at the same time*. The function of this explicit temporal device is to discontinue the temporal shift from TT1 to TT2 that is normally imposed by the PNO and maintain the original TT1 also for the second event. This way, the situation time of the first and the second event can overlap.

From a theoretical point of view, temporal simultaneity can be achieved in two ways: (a) two TSit overlap and are hooked up to one and the same TT, (b) two TSit represent two separate events with two individual TTs. But since the two situations share one and the same time interval (i.e. are simultaneous), they must be linked to the same TT. Therefore, a retroactive analysis takes place under which one and the same TT is assigned to both situation times. The former is the case when aspectual contrast or juxtaposition are used for the expression of simultaneity, the latter applies when two juxtaposed perfectives are combined with an additional explicit device for the same purpose.

There are a number of occurrences where aspectual marking and an additional explicit device are combined in order to mark temporal simultaneity. This would be, from the point of view of the present analysis, a case of overmarking and therefore redundant. I am aware that there must be other reasons why

speakers sometimes use more devices than necessary for expressing temporal simultaneity. However, these reasons are not further explored.

3.5 Explicit atemporal means

Another way to express simultaneity explicitly is to employ explicit atemporal means. The next section is dedicated to the description of these devices.

It has already been pointed out (cf. chapter 2, sections 2.2 and 2.2.1) that explicit atemporal devices are highly dependent on context and do not express simultaneity on their own. In other words, explicit atemporal devices express simultaneity in interaction with other information sources such as context or extra-linguistic knowledge which count as implicit devices.

Since explicit atemporal devices serve other purposes than expressing temporal simultaneity, their role in expressing simultaneity is not described in the available grammars. For the aim of this study, however, it is relevant to take them into consideration. Note that unlike explicit temporal devices explicit atemporal devices are not language specific. Hence, I describe their use for all investigated languages at once.

In narrative discourse, the subject of this study, several linguistic expressions can be identified as explicit atemporal devices: particles, spatial expressions, verbs of perception, and anaphors. When these devices are employed for expressing simultaneity they frequently occur together. Under these circumstances, it is hardly possible to determine which explicit atemporal device is the originator of the simultaneous interpretation. In addition, explicit atemporal devices do not convey simultaneity independently but rather together with implicit devices. As a consequence, it is difficult to single out the exact contribution of an explicit atemporal device to the overall temporal interpretation.

In this section, I explain the difficulties outlined above by discussing a few examples and thus illustrate the way explicit atemporal devices can express simultaneity. First, I look at some general factors that influence the way in which explicit atemporal devices convey simultaneity. These factors are: (a) the co-occurrence of explicit atemporal means, and (b) their specific interaction with extra-linguistic knowledge. Furthermore, as a specific part of extra-linguistic knowledge, the relevance of the number of protagonists depicted in a story is discussed (cf. section 3.5.1). Second, I discuss the function of three

specific atemporal devices: perception verbs, spatial expressions, and discourse (cf. section 3.5.2). Some examples are based on retellings produced by English, German, or Czech native speakers,[30] some have been constructed by the author.

3.5.1 General factors

In this section, I discuss several examples that illustrate two observations: (1) explicit atemporal means occur together. In this manner, they convey simultaneity in a "joint effort". (2) explicit atemporal means frequently interact with implicit means, in particular with extra-linguistic knowledge.

Consider the following example that was produced by an English native speaker:

(3.117)   Someone prepared a large fish in the kitchen,
           and cleaned the vegetables.
           A cat was *there, too*.   (SUB28FISH_ENG)

In example (3.117), the spatial deixis *there* refers anaphorically to the antecedent represented by a full noun phrase *in the kitchen*. Thus, it is implied that the cat and the person share the same space. In this sense, the respective occupations, the cooking-event and the being-state, are interpreted as simultaneous.

The particle *too* has additive meaning and expresses that a cat is added to the set of entities that are said to be in the kitchen. Since it has already been established that the two protagonists share the same space, the presence of *too* strengthens the simultaneous reading.

The underlying assumption for the simultaneous interpretation in (3.117) is that the presence of two persons in a defined space indicates temporal simultaneity. Although this particular piece of extra-linguistic knowledge is not overtly expressed in the example, it is essential for its interpretation. In addition, the temporal contribution of the verb must at the least be compatible with the simultaneity reading. That is, in *A cat had been there, too* the presence of the atemporal device is not sufficient for interpreting the sentence as simultaneous.

---

[30] Explicit atemporal devices can be found in the retellings of all testing items. However, for reasons of comparison, we use various retellings of one and the same testing item in this chapter.

To sum up, the interplay between the spatial expression *in the kitchen*, the referential deixis *there*, the additive particle *too*, and the underlying extra-linguistic component makes the simultaneous reading available. Note that these linguistic means are not used exclusively for expressing simultaneity but also have other functions.

Before turning to the next point, I demonstrate the changes in temporal interpretation when one of the explicit atemporal devices is absent. Consider the omission of the particle *too* as in example (3.118).

(3.118)   Someone prepared a large fish in the kitchen,
           and cleaned the vegetables.
           A cat was *there*.

According to the judgement of several English native speakers, example (3.118) sounds odd because it is not evident that the spatial deixis *there* refers to the earlier introduced spatial expression *in the kitchen*. Moreover, the preferred reading is that the deictic expression *there* introduces another unfolding scene like in example (3.119):

(3.119)   Someone prepared a large fish in the kitchen,
           and cleaned the vegetables.
           A cat was *there*. It played in the garden.

Within the context of a movie retelling, (3.119) can be paraphrased as: In the first scene a fish was prepared in the kitchen, in the next scene a cat played in the garden. Thus, the cooking-event (man) precedes potentially the being/playing-event (cat). The temporal interpretation of this example is sequential and *there* expresses the general reference to a particular movie-scene (In the movie, *there* was a man and a cat). The simultaneous reading is not excluded but it is not as available as in example (3.117).

All this supports the observation that the expression of simultaneity by explicit atemporal means is fundamentally dependent on either (a) the co-occurrence of explicit atemporal devices, and/or (b) on the interaction with extra-linguistic components.

3.5.1.1   Extra-linguistic knowledge: number of protagonists[31]

Special attention is paid to the number of protagonists involved in a story because it can affect the temporal interpretation of an utterance. Consider a shortened version of one of the previous examples:

(3.120)   Someone prepared a very large fish in the kitchen
           and cleaned the vegetables.

In (3.120) only one protagonist (someone) is involved. The favored interpretation is a temporal sequence. This is due to at least five factors: (a) Principle of Natural Order (PNO), which says that in the normal case, events are reported in the order in which they occurred; (b) mentioning of only one protagonist; (c) telicity of the first event (the past marker *-ed*); (d) the cleaning-event is not a subevent of the preparing-fish-event (as opposed, for example, to the event of preparing a meal) because *vegetables* are the object; (e) pragmatic reasons (it is likely that one person can carry out the actions of preparing fish and cleaning vegetables only in succession).

Yet, the inclination towards a particular temporal interpretation can be modified by employing more than one protagonist.

(3.121)   He prepared a very large fish in the kitchen
           and *she* cleaned the vegetables.

The preferred reading of example (3.121) is that the two actions were carried out simultaneously by two different persons. In other words, it could be rephrased as: While he prepared a large fish, she cleaned the vegetables.

As a matter of fact, the sheer presence of two protagonists implies temporal simultaneity in a default-like manner. Consider the next example:

(3.122)   She read a book. He played piano.

No explicit temporal or explicit atemporal means are present in (3.122). Nevertheless, all interviewed English native speakers interpret this example in a simultaneous way. The interpretation of such examples is dependent on other information sources, such as the piece of extra-linguistic knowledge that mentioning two protagonists can imply temporal simultaneity.

---

[31] The term protagonist/person is restricted only to agents. Therefore, examples such as *He went to Cologne and spoke to his friend* is considered to contain only one active protagonist (he) although two people (he and his friend) are mentioned.

Note also that the pronouns *she* and *he* represent two contrastive topics in examples (3.121) and (3.122). For reasons of discourse coherence, it seems more natural to assume that at least some topic information is kept constant. These examples are interpreted as simultaneous because then the topic time is the same for both clauses. In other words, sequential interpretation would be a dispreferred option because it introduces two different topic times.

The preference for a particular temporal reading can also be modified by the semantics of the verb. Consider the following example:

(3.123)   Er *fuhr* nach Köln und *redete* mit seiner Freundin.
           He *drove* to Cologne and *spoke* to his girlfriend.

In example (3.123), the only agent is involved in two events: the event of driving to Cologne and the event of speaking to somebody. According to several German native speakers, the temporal interpretation is ambiguous between simultaneous and sequential reading. Some German native speakers have a slight preference for the latter. However, this ambiguity can be cancelled out by employing a different verb in the second clause as is the case in example (3.124):

(3.124)   Er *fuhr* nach Köln und *dachte* an seine Freundin.
           He *drove* to Cologne and *thought* about his girlfriend.

Native German speakers show a clear preference for the simultaneous reading that can be rephrased as: He was thinking about his girlfriend during his trip to Cologne. The sequential reading (First, he went to Cologne and there he thought about his girlfriend) is not impossible but less natural.

These variations in temporal interpretation are due to a cluster of factors such as verb type, Aktionsart, pragmatic and extra-linguistic knowledge. Although their influence on the temporal interpretation is relevant, a detailed survey would be a complex task and would go beyond the scope of the present study.

In this section we learned that the number of active protagonists can matter for the temporal interpretation of a text. The simple presence of two protagonists induces simultaneity, which holds true even for contexts where any type of overt simultaneity marker is missing. In addition, verbal semantics, Aktionsart, and pragmatics influence speakers' temporal interpretation.

3.5.2 Specific means

In what follows, I discuss the types of explicit atemporal devices that can be used for the expression of simultaneity: verbs of perception, spatial expressions and discourse.

3.5.2.1　Verbs of perception

As mentioned in chapter 2, section 2.2.1, verbs of perception have a prominent status within the group of explicit atemporal means since they signal simultaneity without any additional contextual clues. Consider the following example.

(3.125)　The girl removed the book from the shelf and then quickly sneaked out of the room. The detective *observed* her.

In example (3.125), the relation between the first two events is a temporal sequence. Until the perception verb is mentioned, the listener/reader does not know that the third event overlaps with the two prior sequential events.[32]

There are two bigger (macro)-events, each associated with one protagonist.

- Protagonist 1 (the girl) is carrying out the macro-event that can be labeled as stealing a book. This macro-event can further be split in two subevents: 1st subevent removing a book, 2nd subevent sneaking-out of the room. The two subevents are organized in a temporal sequence. Each of them is encoded in a separate clause.

---

[32] It would be interesting to test whether this observation is actually part of psycholinguistic reality and influences the processing of such utterances. For instance, in a reaction time experiment, three conditions could be tested: (i) perception verb only: The girl removed the book from the shelf and then quickly sneaked out of the room. The detective saw her.' (ii) perception verb + adverbial denoting simultaneity: The girl removed the book from the shelf and then quickly sneaked out of the room. *During the whole time*, the detective saw her. (iii) verb of perception + adverbial denoting sequentiality: The girl removed the book from the shelf and then quickly sneaked out of the room. *Then* the detective saw her. Furthermore, the position of the adverbial could be varied. The underlying questions would be: (a) does the presence of an *explicit* device (simultaneous or sequential) disambiguate the context to a degree where the processing speed can be increased, or (b) does the position of the linguistic expression (explicit or implicit) influence the processing speed (the more towards the end of the last utterance the slower the processing speed).

- Protagonist 2 (the detective) is involved in a single macro-event. This will be labeled as the observing macro-event. Since only one event is associated with the 2ⁿᵈ protagonist, no internal temporal ordering is present on the level of subevents.

The temporal relation established between the macro-event connected to the 1ˢᵗ protagonist and the event connected to the 2ⁿᵈ protagonist is temporal simultaneity. It is left open whether the observing-event in example (3.125) overlaps with both subevents, removing the book and sneaking out of the room, or only with the second subevent, sneaking out of the room.

Example (3.125) illustrates that the semantics of the perception verb *observe* sets up a time interval in which one or both preceding events are included. Note that the length of the time interval is of particular importance, as in example (3.126):

(3.126)   The girl removed the book from the shelf and then quickly sneaked out of the room. The detective *spotted* her.

The perception verb *to spot* denotes only a short time interval. In other words, in opposition to the verb *to observe* the action associated with the verb *to spot* is bounded and terminated. Along these lines, example (3.126) can have two interpretations: (a) The detective saw the girl sneaking out of the room, and (b) The detective saw the girl after she left the room. Option (a) restricts the former range of interpretations to the following possibility: only simultaneity of the 2ⁿᵈ subevent of sneaking-out of the room and the macro-event of spotting is available. Option (b), by contrast, changes the entire temporal set-up by expressing temporal sequence.

Nonetheless, it is the presence of perception verbs that makes it possible to interpret structures such as (3.126) in a simultaneous way. This can be demonstrated by substituting a perception verb with another verb.

(3.127)   The girl removed the book from the shelf and then quickly sneaked out of the room. The detective *followed* her.

In this example, the two successive subevents carried out by the 1ˢᵗ protagonist are succeeded by the event connected to the 2ⁿᵈ protagonist. In contrast to example (3.125), the temporal order between the macro-event carried out by the 1ˢᵗ protagonist and the event connected to the 2ⁿᵈ protagonist is more likely to be a sequence. This situation could be rephrased as: The detective followed the girl after she sneaked out of the room.

As pointed out earlier, explicit atemporal devices tend to co-occur with other explicit atemporal means. As we saw in the previous set of examples, perception verbs co-occur with anaphoric items. This could be motivated by the argument structure of the perception verbs that occur in the database. They all require a direct or an indirect object: *to see*, *to look*, *to observe*, *to notice*, *to spot*, *to hear*.

This rather trivial observation has important consequences for the interpretation of temporal relations of several events. Consider an actual retelling by a German native speaker.

(3.128)   Ein Mann kocht.
Und er kocht offensichtlich einen Fisch.
Seine Katze *beobachtet das Ganze* in der Hoffnung,
dass sie auch etwas abbekommt.   (SUB47_FISH_GER)

A man is cooking.
And he is apparently cooking a fish,
His cat *observes* the whole thing/action in the hope
that it too can get something [part of the fish].

It is the joint effort of the perception verb *beobachten* and the presence of the anaphoric NP *das Ganze* that gives us a simultaneous interpretation. The NP is used in order to access its corresponding discourse entity: the action of cooking. The German substantive *das Ganze* refers to the entire action of cooking (which is expressed explicitly in the English translation: 'the whole thing/action') and therefore provides additional information regarding the left and right temporal boundary. In other words, it is implied that the cat had been observing the man from the start to the end point of the man's cooking activities. This situation corresponds to the simultaneity type classified as total simultaneity (cf. chapter 2, section 2.1).

Event 1: einen Fisch kochen

das Ganze (the whole event)

Event 2: das Ganze beobachten
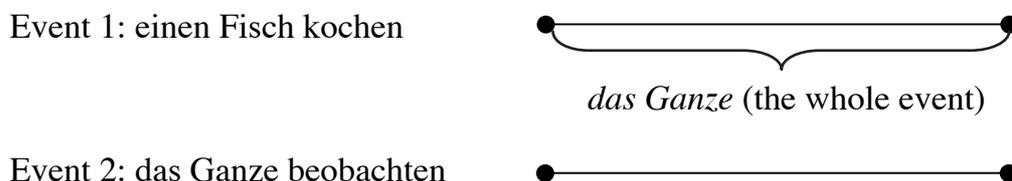
Figure 3.13   Expression of total simultaneity of two events: use of anaphors

In section 3.5.1., the importance of the number of protagonists when expressing temporal simultaneity was discussed. Another issue that is related to the protagonist number arises in connection with the perception verbs: the overt

expression of the action associated with a particular protagonist. Recall that a protagonist is defined here as the agent (cf. section 3.5.1). Consider the following example:

(3.129)   Mary *is looking* at John.

The only imaginable simultaneity that can be deduced on the basis of (3.129) is that of Mary's looking (expressed overtly) and John's being there (not expressed at all). In other words, the sheer presence of a perception verb implies temporal simultaneity between the perception event and the perceived event (excluding the video-retelling situation). In this sense, (3.129) does not entail that John is looking at Mary. This situation would have to be overtly marked.

(3.130)   Mary *is looking* at John and John *is looking* at her.

(3.131)   Mary and John *are looking* at *each other*.

In contrast to example (3.129), the simultaneous reading in (3.130) and (3.31) is guaranteed by the presence of two active protagonists. Moreover, because both protagonists are agents, they carry out two overtly marked activities (as in (3.130)) or one activity is overtly expressed to hold for both protagonists (as in (3.131)). In either case, the simultaneous reading of (3.129) is different from (3.130) or (3.131) in that it does not include two situation times - John's being is not really an event. This, however, can be changed by adding a second situation time:

(3.132)   Mary *is looking* at John *drinking* coffee.

In (3.132) both events are overtly encoded (looking-event and drinking-event). The temporal interpretation is simultaneous.

Note that a perception verb does not signal simultaneity like explicit temporal devices such as *while* would do. However, the combination of a perception event and another event leads to a simultaneous interpretation. Further, the reading is more transparent if the second event is overtly encoded as in example (3.132). In other words, the primary goal of a speaker producing an utterance such as (3.129) is not expressing temporal simultaneity but rather a simple depiction of the looking-event. In examples (3.130) and (3.131) the main purpose is to communicate temporal simultaneity.

One final point should be made about the use of perception verbs such as *to see*, *to look*, and *to observe* in narrative context. They are frequently employed by speakers of all three investigated languages in order to adopt the narrator perspective as opposed to the protagonist perspective. The perception verb occurs either in 1st person singular or 1st person plural. Consider the following examples produced by two different English native speakers:

(3.133)   In this commercial,
             I saw a man and a cat.   (SUB31FISH_ENG)

(3.134)   On the left side, *we see* a fire engine
             on the right side, *we see* only a fire man.   (SUB49FIRE_ENG)

In both examples, the speaker reports the story from his position, which is outside the movie.

In example (3.133), temporal simultaneity can be established between the seeing-event associated with the speaker and the being-event related to the man and the cat. In other words, the temporal simultaneity here links the movie sphere to the audience/narrator sphere. Note the use of the past tense, which implies that the retelling is given after the movie. By contrast, the use of the first person plural and the present tense in example (3.134) gives the impression that the retelling is produced *while* the movie is being shown. Despite their interesting properties, cases such as example (3.133) and (3.134) were excluded from the data analysis in the present study.

In this part, special attention was paid to verbs of perception. Because of their specific semantic features (simultaneity as the default interpretation), perception verbs differ from other explicit atemporal devices. Additional devices (e.g. the presence of anaphoric items) and factors (e.g. number of overtly encoded events) can make the simultaneous interpretation more natural and apparent. Verbs of perception can also be employed for adopting the narrator's perspective.

3.5.2.2   Spatial expressions

Spatial expressions are the most frequent explicit atemporal devices found in the database. A number of different spatial expressions can be found: full PPs such as *in the kitchen*, spatial deixis such as *there*, spatial expressions such as *next to her*.

As I have already discussed the usage of *there* in example (3.120) through (3.122), we shall concentrate on the other two options. Consider example (3.135):

(3.135)   *In the kitchen*, a dog eats from a bowl and a boy is asleep on the couch.

In the kitchen signals that the two protagonists talked about share the same space. By setting up this spatial frame, events talked about are/can be interpreted as simultaneous.[33] Note that this interpretation is preserved even when no *explicit* spatial reference is present:

(3.136)   A dog eats from a bowl. A boy is asleep.

Specifying the source for the simultaneous reading in (3.136) involves consideration of several factors: (i) mentioning of two protagonists; (ii) both events are compatible in time; (iii) contrastive topics introduced by two different NPs (*a dog* and *a boy*); (iv) verb type (two states). On the basis of all these factors and for possible pragmatic reasons, example (3.136) is interpreted as simultaneous despite the lack of overt simultaneity marking. The possibility of interpreting example (3.136) simultaneously raises the question of whether or not the simultaneity in (3.135) is due to the spatial expression. In my view, the spatial noun phrase *in the kitchen* makes the simultaneous reading more direct and available. In other words, simultaneity in (3.135) is explicitly marked by an overt atemporal spatial device while in (3.136) the simultaneous reading is only implicit. The next example illustrates the use of other spatial expressions found in the data.

(3.137)   Stoupne (Perf) si k oknu, *okolo* projde (Perf) *ta* holka.
           He steps to the window, *the* girl passes *by*.   (SUB01POINTER_CZ)

Like other explicit atemporal means, spatial expressions do not express simultaneity on their own. In (3.137), the Czech space adverbial *okolo* co-occurs with the demonstrative *ta*. The demonstrative implies that the entity *girl* is known from previous discourse.[34] Based on these two components - the presence of a spatial expression and an anaphoric demonstrative – example

---

[33] This strategy is often employed by L1 as well as L2 speakers for describing static pictures (Becker & Carroll 1997, Hendriks 1998).

[34] Czech has no overt article system. As can be seen in (3.138), demonstratives assume the function of definite articles.

(3.137) can be interpreted as temporal simultaneity between the stepping and the passing by event. This holds true despite the fact that both verbs are marked for perfectivity (Perf).[35]

Although simultaneity is the preferred reading, a temporal sequence is not excluded in (3.137). When one of the components is omitted, the temporal sequence of *stepping to the window* and *passing by* is more prominent. First, the space adverbial *okolo* 'there/by' is left out. Consider example (3.138):

(3.138)   Stoupne (Perf) si k oknu
            [∅] projde (Perf) *ta* holka.

            He steps to the window,
            the girl passes [∅].

The expression of temporal simultaneity is weaker in (3.138) than in (3.137), however, still possible. Moreover, it is no longer the stepping and the passing by event that overlap, but rather the posttime of stepping to the window (i.e. standing at the window) and the passing by. Finally, the anaphoric demonstrative *ta* is omitted. This possibility brings us to the last explicit atemporal device, which is the role of discourse.

3.5.2.3   Discourse

As I already pointed out, the simultaneous interpretation of (3.135) is conveyed by a 'joint effort' of the space adverbial *okolo* 'by' and the anaphoric demonstrative *ta* 'the'. In this section, I shed some light on the role that discourse factors (e.g. anaphors) play in expressing temporal simultaneity.

Consider example (3.139), which is identical to (3.137) except that the demonstrative *ta* 'the' is left out.

(3.139)   Stoupne (Perf) is k oknu *okolo* projde (Perf) *[∅]* holka.
            step.3sg.Perf Ref   PP   by.Adv pass.3sg.Perf girl.Indef.Nom
            He steps to the window - *a/some* girl passes *by*.

Since the demonstrative is omitted, the noun *holka* (a/some girl) introduces a new entity into the discourse. According to Czech informants, the primary interpretation is a temporal sequence, though temporal simultaneity is not

---

[35] Recall that two juxtaposed marked perfective verbs normally lead to a temporal sequence.

cancelled out completely. The sequential reading is further supported by the presence of two juxtaposed perfectives.

In summary, the expression of simultaneity in (3.139) is considerably weaker than in (3.137), where the spatial expression but not the demonstrative is missing. I could therefore speculate that the simultaneous interpretation of example (3.138) is mainly due to the presence of the anaphoric demonstrative. Note that depending on the type of atemporal device used, different parts of the TSit can be highlighted (e.g. the posttime of a situation), which affects the temporal interpretation of the sentence.

In section 3.5.1, I pointed out that the presence of two contrastive topics (such as two different referents) often leads to a simultaneous interpretation for reasons of discourse coherence. This is not the case in (3.139) because of the two juxtaposed marked perfectives that strongly imply sequentiality. However, consider another example:

(3.140)   *On the left side*, a dog eats from a bowl. *On the right side*, a boy is asleep on a couch.

On the left side and *on the right side* are two contrastive topics expressing that the space talked about is divided into two parts. By setting up this spatial frame, events taking place in either of the two parts are/can be interpreted as simultaneous. In line with the discourse coherence hypothesis (Dimroth, 2002), which assumes that (at least) some topic information must be kept constant, it is the topic time in (3.140) that is maintained since there are two different spatial expressions introducing two different space topics.

The simultaneous reading perseveres even when *no* explicit spatial reference is present, as in the example (3.136) - repeated here for convenience as (3.141):

(3.141)   A dog eats from a bowl. A boy is asleep.

Note that no overt simultaneity marking can be found in this example. Hence, specifying the source for the simultaneous reading in (3.141) is not an easy task. However, it is possible (and plausible) to explain this example on the basis of the discourse coherence hypothesis. Note that both nouns are indefinites referring to two entities, which are newly introduced into the discourse. These two entities are contrastive referent topics. The topic information that is being kept constant here is related either to space or to time. In any case, the resulting interpretation of (3.141) is temporal simultaneity.

Sequential interpretation would not be a preferred option in this case because it introduces two different topic times.

3.6 Summary

The aim of chapter 3 was twofold: (1) to outline the use of explicit devices that are employed when temporal simultaneity is expressed in Czech, English and German; and (2) to provide sufficient amount of information about the way aspect is marked in all three investigated languages. Although these two issues are intertwined I give separate summaries for each one. This way important differences and similarities can be highlighted.

3.6.1 Summary - Aspect

In a nutshell, the most important differences and similarities regarding the expression of aspect are summarized in table 3.4:

	grammati-calized imperfetive	grammati-calized perfective	past perfect	present perfect	future perfect
English	+	−	+	+	+
German	−	−	+	±	+
Czech	+	+	−	−	−

pure aspectual marking   combination of tense & aspectual marking

Table 3.4   Expression of aspect: comparison between English, German and Czech

The aspectual opposition between perfective and imperfective is only morphologically marked in Czech. I have shown, however, that this opposition can not be applied systematically to all lexical verbs and can therefore be seen as only partially grammaticalized. In English, on the other hand, where perfectivity is not marked on the surface[36], the contrast between the simple form and the progressive *-ing* form affects the majority of verbs. German does

---

[36] Whether perfective aspect in English is marked by a zero marker that is not visible on the surface or whether it is not marked at all is irrelevant from a learner's point of view.

not have any grammaticalized opposition between Perf and Imperf. Nevertheless, the latter can be expressed overtly by periphrastic constructions and/or adverbials.

It also follows from table 3.4 that in contrast to English and German, only Perf and Imperf are expressed in Czech. In other words, Czech does not encode, for example, the prospective aspect or any type of perfect aspect. German and English, by contrast, use the combination of tense and aspectual marking for encoding prospective or perfect aspect (cf. section 3.2.1).

From an acquisition point of view, it seems that German and English learners need to focus on different parts of the Czech aspectual system. While German learners could encounter difficulties acquiring the basic opposition between perfective and imperfective, English learners might be challenged by the use of prefixes for derivation of perfective aspect. In any case, it is assumed that both learner groups are familiar with the concept of aspectual marking from their native language, but to a highly varying degree. I delve further into this assumption later.

3.6.2 Explicit devices for simultaneity expression

Explicit devices can either be temporal or atemporal. The former are language specific, the latter are the same for all investigated languages.

First, the use of explicit temporal devices in Czech, English, and German were outlined. In a nutshell, devices originating in two different domains can be employed for explicit marking of simultaneity: the domain of verbal inflection and the lexical domain. German does not offer the former option set. In this respect, it differs from English and from Czech. All three languages employ lexical means and inchoative verbs when they mark simultaneity.

Second, several factors related to the use of explicit atemporal means were discussed. These factors were co-occurrence and extra-linguistic knowledge. In addition, I focused on a special kind of extra-linguistic knowledge, namely the number of active protagonists and its effect on temporal interpretation.

Third, three specific types of atemporal devices were reviewed: verbs of perception, spatial expressions, and discourse. I am aware that there are many other factors and perhaps also other atemporal devices that have not been mentioned in this section.

Finally, this chapter also provides sufficient information to motivate the choice of languages examined in the present study. It is particularly interesting that the source language German lacks the option of using verbal inflection for the expression simultaneity. German, therefore, differs from the other source language English as well as from the target language Czech. This motivates my first research question: How do German learners deal with verbal inflection, specifically aspectual marking, when expressing temporal simultaneity in Czech? English speakers, on the other hand, also employ verbal inflection for expressing simultaneity. In this sense, English resembles Czech. It has already been pointed out that the mapping between the Czech and the English aspectual system is not a one-to-one mapping but rather a rough approximation. Hence, the second research question is: Do English learners of Czech have an advantage over German learners when acquiring the means for marking simultaneity in Czech?

The aim of this chapter is to provide detailed information about the data collection at which this study is based. This includes a description of the elicitation experiment, the testing items, and the participants. Furthermore, an extended section will be dedicated to the methodologically challenging issue of determining level of proficiency in second language learners.

4.1 Simultaneity in spontaneous speech

It has been observed (Schmiedtová, 2001) that in spontaneous speech production, native speakers as well as second language learners of a range of different languages often do not mark simultaneity overtly at all. Instead, they allow the recipient to infer information regarding simultaneity from sources other than overt elements specifying the temporal relationship of a sentence. It is simply left up to the listener to figure out what reading is most appropriate. Two very important factors here are the given situational context and shared world knowledge. In other words, temporal simultaneity is frequently conveyed relying on implicit devices.

All these factors, that (i) the explicit expression of simultaneity depends on whether or not it is "worth mentioning", (ii) the option exists to express simultaneity by non-overt means, and (iii) the observation that the latter is very common in spontaneous speech, made a corpus-based analysis for the study of explicit expressions of simultaneity practically unrealizable.

In order to obtain a sufficient number of data points, it was necessary to make the use of implicit devices insufficient for successful communication and hence motivate the employment of explicit devices. An experimental production task was designed to elicit constructions where simultaneity was explicitly marked via linguistic devices. A set of movies was used depicting scenarios where temporal simultaneity was so relevant that it had to be explicitly marked in language. In this manner, informants were encouraged to employ linguistic means that marked temporal simultaneity explicitly. All data presented in this study comes from this experiment.

4.2 Elicitation experiment

In several initial pilot studies carried out in October and November 2000 in Nijmegen and Prague, I first investigated under which linguistic and psychological experimental conditions subjects unanimously interpret, overtly mark and retell a situation as simultaneous. Native speakers of the three investigated languages - Czech, English and German - were tested to find out what experimental design was most appropriate. For this purpose, twenty different original television commercials were used.

Based on the results of these studies, a set of eleven television commercials was selected for eliciting retellings from learners and native speakers of Czech during March, April and May 2001 in Prague. The data obtained represent the core data for the present study.

4.2.1 Stimulus material

The selected stimulus[1] set proved to be largely unambiguous and highly relevant for depicting simultaneity. Without marking temporal simultaneity, the subject would not be able to convey the point of the story shown in the commercial. In this sense, the stimulus choice was motivated by the following rule: to mark that two situations are simultaneous must be worth mentioning (i.e., the stimulus requires explicit marking of simultaneity).

The majority of commercials did not involve any spoken language. In some cases, English or Dutch was spoken in the stimulus. Nonetheless, it was not essential to understand what was being said in order to understand the story line. Additionally, most of the movies were accompanied by music or some other sounds (e.g. sounds of Formula 1 racing). Only two stimulus items were edited and presented completely silent (no language, no sounds). The average length of a clip was 29 seconds. A detailed description of each movie can be found in the section on Materials.

---

[1] I am aware of the fact that the term stimulus is commonly understood in a more specific way. In the present study, however, it is interchangeable with the following terms: testing item, commercial, or movie.

4.2.2 Task procedure

Native speakers as well as learners were presented with the entire set of eleven commercials from a notebook screen. The order of the presentation was fixed. After each individual presentation, the subjects were asked to retell the story in their own words. Czech subjects only narrated in the source language (SL). English and German learners of Czech, on the other hand, were asked to retell the set of commercials not only in the source but also in the target language (TL). In other words, learners participated in two cycles where the presentation order was fixed and the language employed changed. Between the first and the second cycle there was a short break. The order of the two languages (SL and TL) was counterbalanced. Additionally, to avoid failures based on a general inability to understand the story depicted by the stimulus, subjects were allowed and encouraged to watch any commercial as many times as they wished before they started retelling it.

```
┌──────────────┐     ┌──────────────────┐     ┌──────────────┐
│  Stimulus 1  │ ──▶ │ Narration in SL/TL│ ──▶ │  Stimulus 2  │ ──▶ Etc.
└──────────────┘     └──────────────────┘     └──────────────┘
```

Figure 4.1   Example of a cycle

The subjects had to retell the story directly to a camera in front of them and not to an investigator. The exact instruction for the subjects was to watch the movie and then retell it in their own words in such a way that another person who had not seen the movie would understand the story. Although one might think that talking into a camera would hinder a subject's performance because of feedback absence, the data show that this is not the case. Subjects show no difficulties being filmed and behave in a natural way; i.e. producing gestures, telling jokes into the camera, delivering comments and personal opinions. Moreover, by talking into a camera the authenticity condition was fully satisfied. Since subjects could not rely on shared experience (as the case might be in the presence of another person), they were motivated to describe the stimulus in a very clear manner. Other researchers (e.g. Murcia-Serra 2001) have also successfully used this experimental set-up. Figure 4.2 shows the experimental set-up:
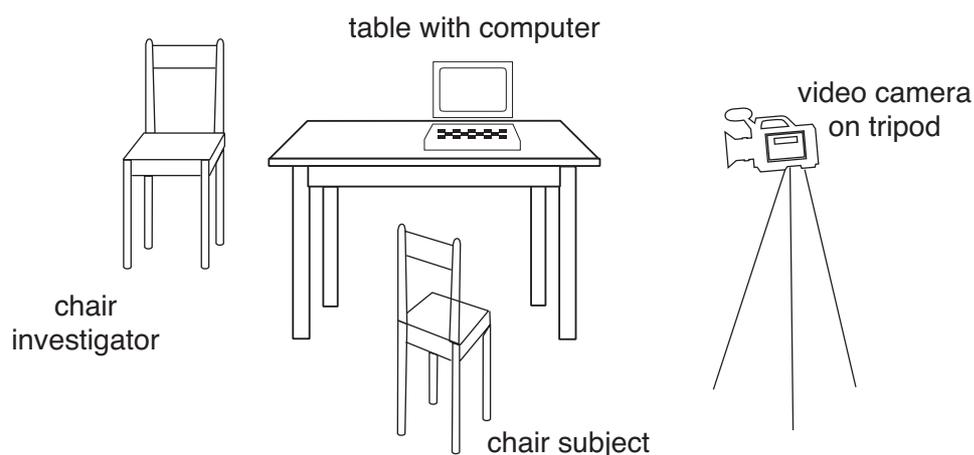
Figure 4.2   Experimental set-up

4.2.2 Participants

Twenty adult native speakers of English and German acquiring Czech as a second language were asked to take part in the experiment. All were monolingual until the age of 12. In addition, twenty Czech native speakers participated as a control group. Czech native speakers in the control group were students and staff members from the Charles University in Prague, who also were monolingual[2] in childhood.

	Czech (TL)	English (SL)	German (SL)
Czech (TL)	20	---	---
English (SL)	20	20	---
German (SL)	20	---	20

Table 4.1   Participants

All learners had obtained a higher educational degree - college or university - and lived in Prague for at least 3 months. For more detailed information regarding gender (for all learners: 65% male), age (for all learners: 24– 57), and knowledge of another Slavic language (for all learners: 70% - no prior knowledge), see chapter 5. Level of proficiency in the target language will, nonetheless, be discussed in greater detail in the next section as the most relevant independent variable tested in the current investigation.

---

[2] This means that all the native speakers involved in the experiment have acquired their mother tongue as the only first language. This notion of monolingual does not exclude that the speakers might have learned other foreign languages at a later age.

Note that the group of English and German learners of Czech is identical to the group of English or German native speakers. In other words, each learner participating in the present study produced a retelling in her/his source language (English or German) and in the target language (Czech). This layout enables us to compare the target and the source language retellings of a single learner.

4.3 Level of proficiency

How the level of proficiency was determined is a crucial step that must be thoroughly described here.

The procedure was based on the judgements of three independent native speakers of Czech as well as an evaluation by the present author. Aside from native intuitions, the emergence and use of two linguistic parameters unrelated to the topic of this study were examined. The entire procedure resulted in establishing a basic, medium, and advanced level of proficiency. The existence of several proficiency levels makes it possible to study developmental trends within each learner group as well as to make a rough comparison between English and German learners at the same level of proficiency (cf. chapter 7, section 7.3 through 7.5).

At the end of this section, examples can be found of prototypical basic, intermediate, and advanced learners' language as well as an inventory of linguistic devices typical for learners at each level of proficiency. In addition, table 4.5 gives an overview of the total number of learners assigned to each level of proficiency, and the number of learners within each source language.

4.3.1 Introduction

Before explaining how various levels of proficiency were determined in this study, the term language proficiency needs to be discussed briefly. The term represents a continuing problem within second language acquisition research. Many attempts have been undertaken to reach agreement on its definition (cf. among others Oller (1981); Cummins (1980, 1981, 1993); Canale & Swain (1980); Bachman & Palmer (1985)). In the present study, the term language proficiency is understood as including the knowledge of language components (e.g. vocabulary, phonology, grammar), communicative skills (e.g. interactional patterns, pragmatic competence), and general skills (e.g. listening, speaking). Even if we agree on this (or another) definition, a challenge remains:

in order to trace the acquisition process, we must know how to measure the components that a learner is in command of as well. As Perdue (1982: p. 52) asserts, "We are studying acquisition at a given time. We wish therefore to know [...] what an informant has acquired, what he has not acquired and what he is acquiring."

Establishing level of proficiency in cross-sectional studies is a difficult methodological issue. In general, it is true that in studies of individuals, a general level of proficiency and individual variation within learners at a particular proficiency level are difficult to separate, whereas in studies of larger groups, individual responses are secondary to group scores and level of proficiency is highlighted. In classroom settings (tutored acquisition), individual learners have been compared, for example, by their placement in language programs (Bardovi-Harlig & Reynolds 1995) or length of study (Buczowska & Weist 1991).

The group of learners that participated in the present study was rather heterogeneous with respect to tutoredness. Consequently, it was impossible to apply any of the criteria that have been presented above for tutored learners. Moreover, in some cases the length of stay did not correspond to the attained level of proficiency. In other words, some learners (tutored and untutored) did not achieve the advanced proficiency level even after a decade spent in the host country.

Under ideal circumstances, a standardized test used in the area of teaching Czech as a second language would have been administered to each learner that participated in the present study. However, this was not possible because the current test for determining level of proficiency in adult learners of Czech is very time consuming. The total time required to carry out both parts of the examination (language test and the elicitation task) would be too long as well as tiring for the participants. This could in turn influence their overall performance. Hence, an extra test was not acceptable.

Because of all these reasons, an alternative procedure had to be invented in order to determine the proficiency level of second language learners participating in this study. The focus was on language components as opposed to, for example, communicative competence (cf. the definition of language proficiency above). A detailed description of this procedure follows in the next section.

4.3.2 Determining the level of proficiency: the underlying procedure

The procedure employed for determining proficiency levels, similar to that applied by Hendriks (1998, 1998a) or Hickmann (1987), consisted of three steps. Since it was assumed that the source language does not interfere with the given level of proficiency, the two learner groups, English and German, were collapsed into one learner group.

Step 1

On the basis of short warm-up interviews[3] that were recorded at the beginning of each experimental session, the first rough assessment regarding learners' level of proficiency was made. On this basis, three proficiency levels could be established: (1) basic level of proficiency (beginners), (2) medium level of proficiency (the intermediate learners), (3) advanced level of proficiency (the advanced learners). The main criterion for this classification was the native intuition and personal judgement of the investigator.

Step 2

The first step made it possible to separate learners at very low and very advanced levels of proficiency. However, it was still difficult to determine the level of proficiency of learners in-between these two extremes. Hence, the use of two linguistic categories was examined in all learners using the data obtained by the elicitation experiment. These categories were: number marking (plural vs. singular), gender agreement between noun and adjective (*hezká dívka* - female: 'a/the nice girl'); *modré nebe* (neutral: a/the blue sky; *malý pesØ* 'a/the small dog). Three criteria were applied when choosing these linguistic categories: (a) independence of the subject investigated in this study (i.e., no relation to the expression of temporality, in particular of simultaneity); (b) high frequency in the input; (c) early acquisition by adult second language

---

[3] Each learner was asked to answer questions concerning the following topics: their age, length of stay in the target language country, motivation for coming to the target language country, the way the learner had acquired Czech (in the case of a tutored learner, further information about the type of training - where, how often and for how long), the proportion of Czech used on a daily basis, and the knowledge of other Slavic and non-Slavic languages. This rather formal inquiry was often followed by a short conversation on various topics. Overall, the total length of such an interview was about 10 minutes.

learners (Ervin 1979 - based on Russian adult acquisition of English)[4]. For the purpose of this analysis, the complete retellings of five testing items from all learners were examined.

The analysis confirmed that the division suggested in step 1 between learners at the very basic and very advanced level of proficiency was accurate. Furthermore, this procedure made it possible to assign the vast majority of all other learners to a particular level of proficiency.

Step 3

To increase the credibility and objectivity of the procedures for attributing any proficiency level used in step 1 and 2, three additional persons inspected the transcripts of the elicitation data[5]. Two of them were native speakers of Czech (coder A, coder B); one was a native speaker of Czech with a linguistic background (coder C). Each examiner was assigned retellings based on one out of three different testing items.[6] They were asked to grade these retellings according to their own native judgement. In other words, they did not receive any instructions to pay attention to specific linguistic features or structures. Furthermore, they were also not given information regarding the source language. The rating system that was applied (very similar to the grading system used in Czech schools) is given in table 4.2:

---

[4] As shown later, the early acquisition of agreement between noun and adjective or noun and verb was not confirmed by my findings.

[5] The reason for choosing transcripts rather than audio recordings for evaluation purposes is that native speakers' judgement is often biased by a good pronunciation of a learner, which does not necessarily correlate with her/his actual level of language proficiency (Hendriks, personal communication).

[6] The entire stimulus battery consisted of eleven testing items. Although the retellings of all eleven commercials were transcribed, only five of them were statistically analyzed. This decision was based on two factors: (1) reduction of the data quantity, (2) matching between the stimulus and simultaneity type. However, for other purposes, such as the investigation of the distribution of the perfective and imperfective aspect, texts based on the complete stimuli set were examined. In other instances, such as grouping learners according to their level of proficiency, the three selected stimuli were other than the five used in the statistical analysis were investigated. I selected one testing item from the beginning, middle and the end of the experiment to establish proficiency groups. The idea behind this was to monitor factors such as initial hesitance or lack of attention towards the end of the task that might influence a subject's performance.

Grade	Description
1	Excellent
2	very good
3	Good
4	Sufficient
5	insufficient

Table 4.2   Rating system used for determining level of proficiency in learners

In order to establish "the extent to which the different judges [in this study coder A, coder B, and coder C] tend to assign exactly the same rating to each object" (Tinsley & Weiss, 200: 98) I calculated the inter-coder agreement (reliability). Based on the measurement of the data (=nominal scale) and the number of coders (=multiple coders) the Cohen's kappa index was selected as a proper measure of inter-coder reliability. For results, see table 4.3:

Coder Pair	Value of the Cohen's kappa index
A, B	0.801
A, C	0.867
B, C	0.803
Average	0.824

Table 4.3   Assessment of inter-coder reliability

For the interpretation of the results, I relied on Landis and Koch's (1977) benchmarks for assessing the relative strength of agreement: Poor (< 0), Slight (.0 - .20), Fair (.21 - .40), Moderate (.41 - .60), Substantial (.61 - 80), & Almost Perfect (.81 - 1.0). In line with this classification, the average coders' agreement is 'almost perfect'. The high level of agreement reached among the coders suggests that the research method chosen for determining learners' level of proficiency was appropriate.

There were several exceptions to this pattern (e.g. scores for subjects number 15, 33, or 40), where the difference in rating was greater than two degrees. Additionally, a low value of the Cohen's kappa index (.24) shows only a slight inter-coder reliability. Nevertheless, it was necessary to determine a proper level of proficiency for these subjects. Since this was not achieved during the course of the procedure above, the overall performance in all testing clips was examined individually. Additionally, it was possible to identify a prototypical learner representing each level of proficiency (for examples, see below). The retellings of unclear cases, such as subjects 15 or 33, were compared to these learners and assigned the appropriate level of proficiency.

Average rating scores of the remaining subjects were calculated and assigned to the existing proficiency classification as summarized in table 4.4:

Ø 1 – 2.4	Ø 2.5 – 3.4	Ø 3.5 - 5
Advanced level of proficiency	Medium level of proficiency	Basic level of proficiency

Table 4.4   Plotting of the grading system onto the proficiency group

In the final phase, the newly established proficiency groups (based on the evaluations of the three native speakers of Czech) were compared to the groupings determined in steps 1 and 2 (based on the evaluation and analysis of the investigator). The discrepancies between the two groupings were minimal. The few controversial cases were weighed against the prototypical cases mentioned above. The final grouping can be found in table 4.5:

	English learners	German learners	Total learners
Basic level	10	3	13
Medium level	7	9	16
Advanced level	3	8	11
Total number	20	20	40

Table 4.5   Overview - all learners' level of L2 Czech proficiency

In summary: Three levels of proficiency were established on the basis of a procedure that, apart from native judgments, also includes the emergence and use of two non-temporal linguistic categories. In step 1, only the performance in the initial informal interviews was evaluated. In step 2, number marking and gender agreement between nouns and adjectives were studied in all narratives. In step 3, three external examiners evaluated retellings of three clips by all learners. In the final phase, the outcomes of steps 1 and 2 were compared to step 3. Only a few cases had to be re-examined.

4.3.3 Exemplary learners[7]

Retellings of the test stimulus Poster produced by three different learners representative of each level of proficiency are shown below. The original text is in *italics* and every line is accompanied by a one-to-one translation. Each example is followed by a free translation. **Bold** expressions in the brackets placed in the original retellings refer to an item that was either not expressed at all [**miss** – for missing] or was used in a non-target like manner [**inap** – for inappropriate]. This it can be seen whether and to what degree a learner deviates from the target language. The author added further information into the free translation (also in square brackets) so that it can be understood more smoothly. Furthermore, the Czech imperfective is translated by the English progressive marker *-ing* in this section.

4.3.3.1   Basic level of proficiency

Original retelling produced by a native speaker of German provided with a one-to-one translation, and followed by a free translation[8].

a.   Tady je jeden mladý muž,
        here is a /one young man
b.   a chce jíst sendvič,
        and wants eat sandwich
c.   On [**miss verb**] ten chleb a ten kečap,
        he [missing verb] the bread and the ketchup
d.   a on jí,
        and he eating
e.   a ten kečap [**miss verb**] na nějaké [**inap agreement**] obraz.
        and the ketchup [missing verb] on some picture.
f.   Na obraz [**inap case**] je žena,
        at picture is a woman

---

[7] Throughout this section, a subject's performance is measured against that of target-language native speakers. In other words, a target language perspective is applied. At this point, the rules learners are making use of or the underlying system and categories they exhibit were not examined. The only aim is to characterize the three proficiency levels and describe what learners can or cannot do. The absence of a linguistic structure or component does not mean that learners, when communicating, are not successfully using other strategies and rules for the same purpose.

[8] Since the main goal of these examples is to illustrate the overall performance typical of learners at every proficiency level, no detailed morphological information is provided. The typical mistakes are pointed out and highlighted in the original retelling.

g.   ten kečap je na středu, [**miss verb**] na střed,
      the ketchup is in middle, [missing verb] into middle,
h.   a ten ten kluk, on jí.
      and this this boy, he eating
i.   Ten, v ten [**inap case**] moment [**inap case**] stojí otec,
      this, at this moment [**miss spatial specification**] standing father
j.   on ho vidí.
      and him seeing.

Free translation

a.   Here is a young man
b.   and he wants to eat a sandwich.
c.   He [take/put together] the bread and the ketchup,
d.   he is eating,
e.   and the ketchup [squirt/splash/spray] onto some picture.
f.   On the picture is a woman,
g.   the ketchup is in the middle, [squirt/splash/spray] into the middle,
h.   and the the boy, he is eating
i.   This, at this moment the father is standing [there]
j.   and he is looking at him.

4.3.3.2   Medium level of proficiency

Original retelling produced by a native speaker of English provided with a one-to-one translation, and followed by a free translation.

a.   Tak, jedná se o nějakého kluka,
      so concerns Ref about a boy
b.   který si připraví oběd a sice párek v rohlíku s kečupem,
      who himself prepares lunch and namely sausage in roll with ketchup
c.   a ten kečup se nějakým způsobem dostává [**inap aspect**] na plakát,
      and the ketchup some way getting onto poster
d.   který patří zřejmě jeho bratrovi.
      which belongs probably his brother.
e.   A on, ten malý kluk, zkusí ten kečup odstranit z toho plakáta [**inap marking of animacy**],
      and he, the little boy, tries the ketchup remove from this poster.
f.   on vejde v [**inap preposition**] pokoj [**inap case**] jeho bratra,
      he comes into the room his brother
g.   a kouká,
      and looking
h.   co se tam stane [**inap verb choice**], stává [**inap aspect choice**],
      what there happens, happening.
i.   On právě přijde v tom momentu,
      he just comes in at the moment
j.   když jeho bratr,
      when his brother,

k.   to nevím, jak se to, tomu říka,
      this do not know, how Ref this, this called

l.   ale když jeho bratr zkusí [**inap aspect**] odstranit ten kečup.
      but when his brother tries remove the ketchup.

Free translation

a.   So, it is about a boy
b.   who prepares himself a lunch, namely a sausage in a roll with ketchup,
c.   and the ketchup is getting in some way onto a poster,
d.   which probably belongs to his brother.
e.   And he, the little boy, tries to remove the ketchup from the poster.
f.   He comes into his brother's room,
g.   and is looking [around]
h.   what happens, is happening there.
i.   And he comes in just at the moment
j.   when his brother,
k.   I do not know how this is called,
l.   but when his brother tries to remove the ketchup.

4.3.3.3   Advanced level of proficiency

Original retelling produced by a native speaker of English provided with a one-to-one translation, and followed by a free translation.

a.   Mladý kluk, asi deseti-, dvanáctiletý kluk, přichází domů ze školy,
      young boy, approximately a ten-, twelve-year-old boy, coming home from school

b.   a vyhodí [**inap verbal prefix**] tašku stranou,
      and throws bag aside

c.   jde hned do kuchyně,
      goes straight to kitchen

d.   on si velmi rychle připravuje nějaký sendvič, svačinu,
      he himself very fast preparing a sandwich, snack,

e.   a tam [**miss reflexive**] dává různý věci z lednice, kečup a tak dále,
      and there putting various things from fridge, ketchup and so on,

f.   pak do toho kousne,
      than into that bites,

g.   a ten obsah, ten kečup z toho sendviče končí nějak všude, včetně na plakátu,
      and the content, the ketchup from this sandwich ends up somehow everywhere, including on poster,

h.   kde je polonahá žena.
      where is a near naked woman.

i.   On, aby se nějak zbavil toho kečupu a tý hořčice, jak je na tom plakátu,
      he, in order himself somehow gets rid of this ketchup and the mustard, which is on that poster,

j.   jde tam
      goes there

k.   a lízá, nebo vylízá [**inap verbal prefix**] ty věci z břicha tý nahý ženský.
         and licking or licking off the things from the belly the naked woman.

l.   Pak se otevírají dveře
         Then Ref opening door

m.   a přichází další kluk, asi nějaký osmnáctiletý, dvacetiletý,
         and coming another boy, probably a eighteen-, twenty-year old,

n.   asi zřejmě jde o staršího bratra,
         probably apparently is about older brother,

o.   a on kouká, vidí,
         and he looking, sees

p.   jak tam stojí před tím plakátem s tou nahatou ženskou,
         that there standing in front this poster with this naked woman

q.   a jak lízá její břicho
         and how licking her belly.

Free translation

a.   A young boy, approximately a ten, twelve-year-old boy, is coming home from school

b.   and throws the bag aside,

c.   goes straight into the kitchen,

d.   he makes himself in a very fast way a sandwich, a snack,

e.   and there he is putting in it various things from the fridge, ketchup and so on

f.   then he bites into it,

g.   and the content, the ketchup from the sandwich ends up somehow everywhere including on a poster

h   where is a near naked woman.

i.   He, in order to get rid of this ketchup and the mustard, which is on this poster,

j.   goes there

k.   and he is licking or he licks off the things off the belly of the naked woman.

l.   Then the door is opening

m.   and another boy is coming in, probably an eighteen-, twenty-year old,

n.   it is probably apparently an older brother,

o.   and he is looking around and sees

p.   that he is standing in front of this poster with this naked woman

q.   and that he is licking her belly.

It can be seen on the basis of these three retellings that learners at every proficiency level show different kinds of linguistic behavior. In what follows, these "first-sight" characteristics will be explored in more detail.

4.3.4 Inventory

In this section are sketched the repertoire of linguistic devices and abilities that learners at a particular level of proficiency exhibited at the point at which the experiment was conducted.

One of the main results of this study is that English and German learners differ as early as at the basic level of proficiency with respect to (a) the use of aspectual markers, and (b) the choice of linguistic means for expressing simultaneity in Czech. I also observed many similarities among learners at every proficiency level. Thus, each inventory begins with a description of shared features and continues by depicting differences that are dependent on the respective source language. The entire database (retellings of all eleven testing items) served as the basis for this analysis.

4.3.4.1   **Beginners**

The narratives produced by learners at the basic level of proficiency are in general rather short and sketchy. Beginners' vocabulary in the target language is limited so that omissions, especially of verbs and prepositions, can be noticed in some learners.[9] The lack of these components can lead to the so-called nominal style - a juxtaposition of nouns, adjectives and adverbials (also observed in other studies e.g. Strömqvist & Day 1993, Ahrenholz 1998, Hendriks 2000). In addition, full noun phrases are placed in positions where a pronominalized element is required and therefore anaphoric linkage rules are violated.

The average number of verb types produced in each stimulus narrated by beginner learners varies from fourteen to fifty. The most common verbs are: 'to be', 'to see', 'to eat', 'to sit', 'to talk', 'to walk', 'to give', 'to have'[10]. They mainly occur uninflected or in 1st or 3rd person singular. Since no evidence of productive use of the entire inflectional paradigm was found in the data, it is assumed that these forms are as yet unanalyzed by the learners and do not

---

[9] This finding shows that the individual variance within one group of learners is still high. In other words, several subgroups could be identified for each proficiency group: basic beginners, medium beginners, etc. Although this subdivision would not be useful for the purpose of this study, it is important to keep in mind that these differences exist.

[10] The fact that all learners employ these verbs frequently in their retelling is biased by the stimulus. No further conclusions are drawn from this observation.

reflect their ability to use verbal inflection productively. As opposed to the use of only a restricted set of verbs (see above), the use of only some persons seems not to be biased by the stimulus content. This is because they are frequently used in an inappropriate context. Further, several beginners employ the modal verb 'want' mostly in the 2nd person singular. The most common tense form is the present. Finally, the focus component is frequently placed in the last position.

Nominal case marking is generally restricted to accusative and in some instances also locative cases. As far as number marking is concerned, only the plural form of frequent nouns such as 'people', 'man', and 'woman' can be found. There are only very few occurrences of an appropriate noun-adjective agreement (number, gender) or noun-verb (number, in past reference also gender). On the other hand, the use of negation (verbal, nominal) is unproblematic.

Adverbials are employed often but not by all beginners. The temporal adverbials (TAdv) found in the corpus are: 'at this moment', 'suddenly', 'then', 'later', 'during', 'already', 'still'. 'Left', 'right', 'above', 'in front' represent spatial expressions (SAdv) used at this level of proficiency.

Although initial signs of morphologically derived aspectual marking was observed in both learner groups, there are several crucial differences between German and English beginners.

- German beginners do not derive the imperfective aspect. The only derived aspectual form found in the data is the perfective. The perfectivization is achieved by means of prefixation (e.g. prefix *vy-*) rather than suffixation (suffix *-nou*).

- English beginners, on the other hand, derive both aspects. Some learners even derive the perfective and the imperfective form of one and the same verb (traditionally called aspectual pair). Like German beginners, English beginners also prefer using prefixes for perfective derivation. However, the number of occurrences of perfective suffixes is much higher than in the German sample.

Because English learners at the basic level of proficiency are able to derive the perfective as well as the imperfective aspect, they differ substantially from German beginners.

4.3.4.2   Intermediate learners

A major increase in lexical richness can be observed in all learners at the medium level of proficiency. This can best be demonstrated in the verbal domain (including modal verbs): the average number of verb types used at this level of proficiency is 66. Further, the retellings become longer and more elaborate. The nominal style is not present any longer. Additionally, anaphoras (zero anaphoras not included) and pronouns[11] appear regularly, and additional elements, reflexives[12] and reciprocals[13] start to appear.

Verbal inflection is richer than at the basic proficiency level, including other persons than 1st and 3^{re} singular. Although these two persons still occupy a prominent position in the data, there is evidence that many intermediate learners have started using the inflectional verbal system productively. The same holds true for nominal morphology. Apart from the accusative and locative case, other cases emerge; the genitive case, though, is often ill formed. In addition, numerous mistakes can be found in animacy[14] marking.

The preferred word order in the main clause in standard Czech is SVO, sometimes altered to OVS. Although Czech has free word order, learners' preference for placing the finite verb in the second position is definitely in line with what the Czech native speaker data reveal. At the medium level of proficiency, occurrences of subordinate ('that', 'when', 'while') and relative clauses ('which') can be found.

Number marking is extended to a whole range of nouns. Agreement between noun and adjective, however, is in many cases not target language adequate. On the other hand, there are only a few cases of erroneous noun-verb agreement. The former observation could be related to the high variance in all Czech nominal paradigms. In the latter case, only the category of number and gender need to be considered.

---

[11] Czech normally requires subject personal pronouns only for emphasis, contrast and so on (i.e. Czech is a so-called null-subject language).

[12] Reflexivity is expressed primarily by the free morpheme *se* (e.g. umyl *se* - He washed *himself*).

[13] Reciprocity is expressed primarily by *se/si* (e.g. Mají *se* rádi. - They love *each other*. Už dlouho *si* dopisují. - They have been writing to *one another* for a long time.)

[14] Animacy is only relevant for the masculine gender in Czech.

The largely enriched list of adverbials used by intermediate learners for temporal and spatial reference is provided in the next subsection: (TAdv) 'when', 'as soon as', 'during', 'soon', 'today', 'the entire time', 'immediately', 'in the meanwhile', 'at the moment', 'at the same time', 'suddenly', 'just', 'always', 'again'; (SAdv) 'down', 'below', 'forwards', 'inside', 'outside', 'on the left/right side', 'there'. Furthermore, past tense and present tense morphology is used productively.

Aspectual marking is a point of divergence also at the medium level of proficiency. The pattern observed for beginners persists for intermediate learners as well: German learners use more derived perfective than imperfective verbs while English learners show the opposite pattern. However, learners of both groups exhibit the ability to construct both aspectual forms for one and the same verb. In other words, German intermediate learners behave differently from German beginners and their competence is comparable to that of the English intermediate group. One final point is that both intermediate learner groups struggle with the range of lexical meanings that are often associated with prefixes used for perfectivization.

4.3.4.3   Advanced learners

Regardless of language background, learners at the advanced level of proficiency produce near native or native like retellings. Inaccuracies can only be observed in a few domains. These domains are: use of reflexives (omitted in positions where they are obligatory); assignment of proper lexical meaning to a verbal prefix; stylistic issues (inappropriate use of expressives such as 'to gawp'). Additional temporal adverbials can be found such as 'whereas', 'until', 'whenever', 'before'.

At this level of proficiency the two learner groups do not only differ with respect to their preference for either perfective or imperfective aspectual marking, they also diverge in their respective choices for deriving perfective verbs. Germans favor prefixes, English learners prefer the suffix *–nou* (for more detail, see chapter 8).

4.4 Summary

Chapter 4 dealt with issues related to the elicitation experiment used in the present study and the choice of the task was motivated. Then the experimental design, the stimulus material, and the task procedure were discussed. Next, informants participating in the investigation were briefly introduced. Finally, a section was dedicated to the way levels of proficiency were determined.

By means of a the three-step-evaluation procedure, learners were divided into three proficiency groups. For each level of proficiency, an inventory of linguistic means was established that is typically used by learners associated with this proficiency level. Despite the differences that can be found between English and German learners at all proficiency levels in the area of *aspectual* marking, both learner groups exhibit many similarities in other domains. This holds true not only for what learners can but also what they can not express in the target language. The fact that learners show similar behavior is illustrated in examples of prototypical learners representing each proficiency level as well as in the summarizing inventories depicted in section 4.3.4.

This chapter deals with some topics that are associated with studies based on experimental data, namely: data coding and data analysis. First, I present the coding systems of independent and dependent variables and give precise definitions of both variable types. In the next section, stimulus sets introduced in the previous chapter are discussed further in relation to data collection. Here, I also show that overall explicit simultaneity marking was triggered equally often by all the stimuli used. In the final section, the data analysis methods employed in the current study are briefly sketched.

5.1 Coding of independent variables

Eight independent variables[1] were coded for the purpose of the statistical analysis. The only manipulated independent variable was the order of the languages in which the learner was asked to retell the presented commercial. Two possible orders were involved: (1) source language before target language (L1 before L2), i.e. English/German before Czech; or (2) target language before source language (L2 before L1), i.e. Czech before English/German.

	Frequency	Percent
(1) L1 before L2	18	45.0
(2) L2 before L1	22	55.0
Total	40	100.0

Table 5.1   Number of learners performing the task in order (1) and in order (2)

All seven remaining independent variables were classifying. These independent variables are listed below.

---

[1] Independent variables be can either manipulated or classifying variables. For example, in a study to determine the effect of a level of drug dosage on the performance of some task, the researcher can manipulate the dosage level; thus dosage is an independent variable in the study. If the independent variable is a classifying variable, it simply categorizes the individuals being studied. For example, sex or age would be classifying variables.

(I)	Age
(II)	Gender
(III)	Stimulus set
(IV)	Language instruction
(V)	Level of proficiency
(VI)	Source language
(VII)	Knowledge of other Slavic languages

Table 5.2   Classifying independent variables

In the following part, I will outline each classifying independent variable. Furthermore, the motivation for including a particular independent variable into the coding system is provided.

(I) Age and number of participants

	Czech group	English group	German group
Number of subjects	20	20	20
Age range (in years)	18 - 55	25 - 59	23 - 58
Average age (in years)	23	35	37

Table 5.3   Age and number of subjects

As shown in the overview above, each group includes the same number of subjects. Note that English and German native speakers and learners of Czech are the same speakers. In other words, each English and German speaker performed the task in two languages: the source language (SL) and the target language (TL). This allows the comparison of an individual's performance both as native speakers and learners of L2 Czech.

All subjects that participated in this experiment more or less belong to the same range of ages and are therefore comparable. This is especially true with respect to both learner groups. Compare the following figure:
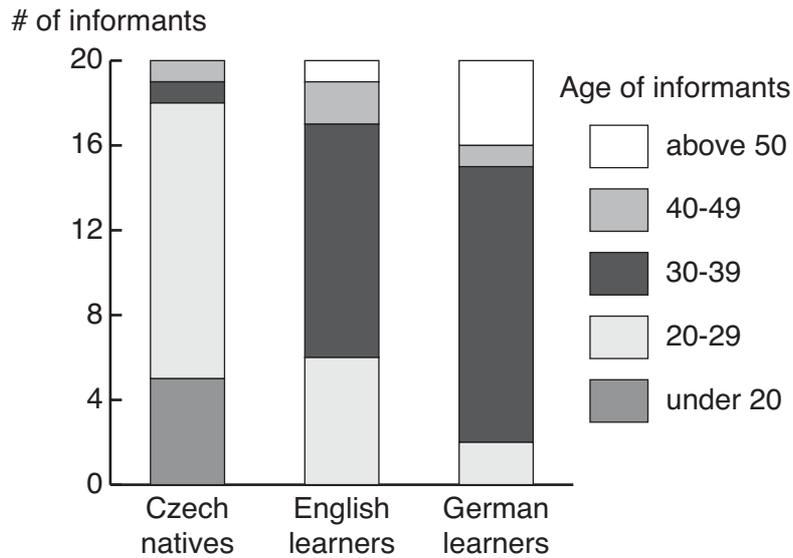
Figure 5.1   Age distribution across all subjects

There are no crucial age related variations between the learner groups examined in this study. In addition, all learners started the acquisition of Czech in adulthood.

(II) Gender

For a general overview, consider the following tables:

English subjects	Frequency
male	15
female	5
Total	20

Table 5.4   Gender of all English learners

German subjects	Frequency
male	11
female	9
Total	20

Table 5.5   Gender of all German learners

Czech subjects	Frequency
male	10
female	10
Total	20

Table 5.6   Gender of all Czech subjects

As can be seen from tables 5.4 though 5.6, the distribution of gender among English and German subjects is not equal. This is due to the fact that there is only a limited number of English and German adult learners of Czech that (a) live in Prague (the place where the data were collected), and (b) were willing to participate in the present study. Naturally, for the control group of Czech native speakers, it was possible to select equal numbers of female and male subjects.

As far as the domain of simultaneity expression is concerned, no differences between genders are expected. Although it is known that female learners have an advantage in language learning, it was not predicted that this variable would cause any effects in the domain of temporality acquisition. It was only a matter of precaution to control for it.

(III) Stimulus set

As mentioned in chapter 4 (section 4.2.1), a set of eleven commercials was used for the elicitation task. The entire database was transcribed and digitized[2]. For the statistical data analysis, however, only five commercials (the set of 5) was selected. There were two main reasons for this choice:

- The effect of a stimulus on the particular choice of linguistic means for expressing temporal simultaneity was another point of interest in the present study. In view of this, it was desirable to select five different testing items, in which the depicted simultaneous scene would roughly correspond to one of the five simultaneity types introduced in chapter 2 (section 2.1). The five selected stimuli fulfill this condition: each of them approximately represents one of the simultaneity types.

- From a practical point of view, to code and analyze the amount of data that were obtained on the basis of the entire stimulus set would have been beyond the reach of this investigation. The five chosen testing items triggered sufficient amounts of data points. Additionally, within the whole set, these five commercials were the most successful stimuli in the sense that they elicited the most instances of explicit (temporal and atemporal) expressions of simultaneity.

---

[2] These two important steps were carried out in a joint effort by several student assistants in the Acquisition Group, the Technical Group of the Max-Planck-Institute, as well as the author.

On the other hand, for the purpose of qualitative descriptive analysis, the whole set (the set of 11) was examined. For example, the establishment of various levels of proficiency is based on the set of 11 (including the pre-test interview). Furthermore, the same set was used when comparing the overall use of perfective and imperfective verb forms.

Note that the set of 11 includes not only the retelling of all 11 commercials but also each retelling in full length. This is not the case for the set of 5. Here, only the relevant part of each movie was considered. The relevant part of a testing item is defined as the scene where the simultaneity of two situations is represented in a very prominent and unambiguous way and can hence be expected to be marked. This 'expectation line' is not only based on the stimulus depicting simultaneity, but also on the performance of native speakers with different language backgrounds. Consider the following example:

Description of th testing item Poster

Scene 1	A boy is preparing a tofu-dog with ketchup and mayonnaise in his kitchen.
Scene 2	The boy starts eating it in his room.
Scene 3	As he bites into it, the sauce splashes onto a poster of a scantily clothed woman.
Scene 4	The boy decides to lick the sauce off the poster.
Scene 5	The boy is licking it off, another male person opens the door and sees him

The point of this stimulus: While the boy is licking off the poster, another person comes in and catches him in the act of performing a very ambivalent action.

Coding and analysis were done for scene 5 only. This is because here, two situations overlap in an unambiguous way. Additionally, both protagonists can be seen at the same time. On average, three clauses were analyzed per crucially coded scene.

	Commercial name	Purpose of analysis	Scope of analysis
Set of 11 (the entire set)	Poster, Pointer, Dress, Fire, Formula, Swing, Geysers, Soup, Cat, Proposal, Shopping	Descriptive analysis; use of verbs; derivation of aspect	Entire retelling
Set of 5 (the subset)	Poster, Pointer, Fire, Formula, Geysers	Statistical analysis; stimulus effect on the choice of linguistic means	Only relevant scene

Table 5.7   The use of the two stimulus sets

Including the stimulus type (the set of 11 vs. the set of 5) into the coding system was mainly motivated by the question if and to what extent a stimulus type can influence the choice of linguistic means for expressing temporal simultaneity. The research question here was whether all occurrences of explicitly marked simultaneity would be equally distributed across the five tested stimuli. For every commercial a chi-square was performed in order to see if the occurrences of explicitly marked simultaneity were equally distributed across all stimuli. For this purpose, the total number of occurrences where simultaneity was marked explicitly (N) was counted. The expected frequency was N divided by the number of stimuli. Poster: χ^2 (4) = 1.4, n.s.; Pointer: χ^2 (4) = 2.6, n.s; Formula: χ^2 (4) = 1.6, n.s.; Fire: χ^2 (1) = 0.8, n.s.; Geysers: χ^2 (1) = 2.7, n.s. No significant differences were found between the commercials within the narrow set of 5.

In summary: As far as overall explicit marking is concerned, all the commercials elicit data in a very similar way. They trigger an equal amount of overall explicitly marked simultaneity in native speakers and learners, thus constituting a suitable base line for comparison. That is, the stimuli used in this study are comparable and reliable as triggers for simultaneity.

(IV) Language instruction

With regard to the category language instruction, I distinguished between two types of learners: *tutored* (instructed) and *untutored* (uninstructed). Before revealing the distribution of these two types in the database, the definition of the terms tutored and untutored adapted in the present study follows:

- Tutored learners have received some kind of teaching advice. This was achieved either in a classroom-setting (e.g. language school) or in the form of private lessons provided by a Czech native speaker (often a teacher for Czech as a second language). The length of exposure to such training varies considerably - from merely attending a crash course in Czech for beginners for several weeks, to repeated attendance at the annual summer school in Czech studies or to regular lessons on weekly basis stretched over one or two years. In other words, all tutored learners underwent some type of formal instruction. However, the duration of the attended classes differed greatly. Whether courses were attended in the Czech Republic or the speaker's country of origin was disregarded for the purpose of this investigation.

- All untutored learners acquired Czech outside the classroom. That means that at the point at which the experiment for this study was conducted, the untutored learner group had not had any classroom-based or private-lesson-based training for the purpose of acquiring Czech. Rather, they acquired Czech under natural circumstances: from communication with Czech native speakers, from the media, etc. Nonetheless, some of the untutored learners had used a Czech grammar in order to learn more about the grammatical system of Czech. In this way, one could argue that these learners, too, were exposed to some meta-information. This is an arguable issue. For the purpose of the present study, the only decisive factor taken into account for separating tutored from untutored learners was whether the learning was in the form of a class taught by another person or not.

Consider the division between tutored and untutored learners that were part of the present investigation in table 5.8:

Both learner groups	Tutored	Untutored
English	6	14
German	7	13

Table 5.8   Presence of formal/informal instruction in all learners

There were more untutored than tutored learners in both learner groups. However, the proportion of tutored and untutored learners between the groups is fairly balanced. Therefore, the groups are comparable with respect to tutoredness. Although the language instruction factor (i.e. presence or absence of formal instruction) is not further explored in the present study, tutoredness is an important factor in second language acquisition. In domains such as

composition of grammatical aspect, however, tutored learners may have an advantage over untutored learners. This assumption is based on the observation that various textbooks devote a great deal of attention to this feature of the Czech language. For more details regarding the underlying assumptions and results, see chapter 7.

(V) Level of proficiency

Three levels of proficiency were established among the learners of Czech studied in this research project: basic, medium, and advanced. For more details about the procedure and the specific criteria used for determining the level of proficiency for each individual learner, see chapter 4, section 4.3.

English learners	Frequency	Percent (%) of sample
basic	10	50.0
medium	7	35.0
advanced	3	15.0
Total	20	100.0

Table 5.9   Level of proficiency in English learners

German learners	Frequency	Percent (%) of sample
basic	3	15.0
medium	8	40.0
advanced	9	45.0
Total	20	100.0

Table 5.10   Level of proficiency in German learners

Level of proficiency is a major point of interest. The present study is concerned with the developmental trends within both learner groups as well as with the differences and similarities at each level of proficiency that arise when comparing the groups to each other. As can be seen in tables 5.9 and 5.10, there is a large difference in the sample size at the basic (English: 50% vs. German: 15%) and advanced level of proficiency (English: 15% vs. German 45%).

In general, a larger number of subjects would be desirable. However, finding suitable informants is a difficult task in the context of SLA and hence achieving a balanced sample size in all learner groups was often not feasible. As shown in chapters 7 and 8, the differences in sample size have been taken into account in all statistical analyses (e.g. no statistical tests were performed where insufficient numbers of data points were available). Interpretations of results from these two groups – German beginners and English advanced

learners - are thus formulated with great caution. It is, however, remarkable that often all learners in these two groups show very similar and consistent patterns in the way they express simultaneity.

(VI) Source language

Two source languages are the object of investigation: English and German. See chapter 3 for the motivation for using these source languages.

(VII) Knowledge of other Slavic languages

Since the properties of the source language were not relevant here, both learner groups were analyzed together. As can be seen from the table below, the number of English and German learners with some prior knowledge of an additional Slavic language is very similar. It will be demonstrated in chapter 8, section 8.5.2 that as far as the expression of simultaneity is concerned, learners with and without prior knowledge of another Slavic language do not differ.

	English learners	German learners	All learners
No knowledge	14	13	28
Some	6	7	12
Total	20	20	40

Table 5.11　　Knowledge of other Slavic languages in all learners

One characteristic that all Slavic languages share is the presence of grammatical aspect that is morphologically marked on the verb. Since aspectual marking is crucial for expressing simultaneity in Czech, any knowledge of another Slavic language and therefore familiarity with an aspectual system could be beneficial.

5.2　Coding of dependent variables

In this section, all investigated dependent variables will be listed and briefly described. For a better overview, consider figure 5.2:
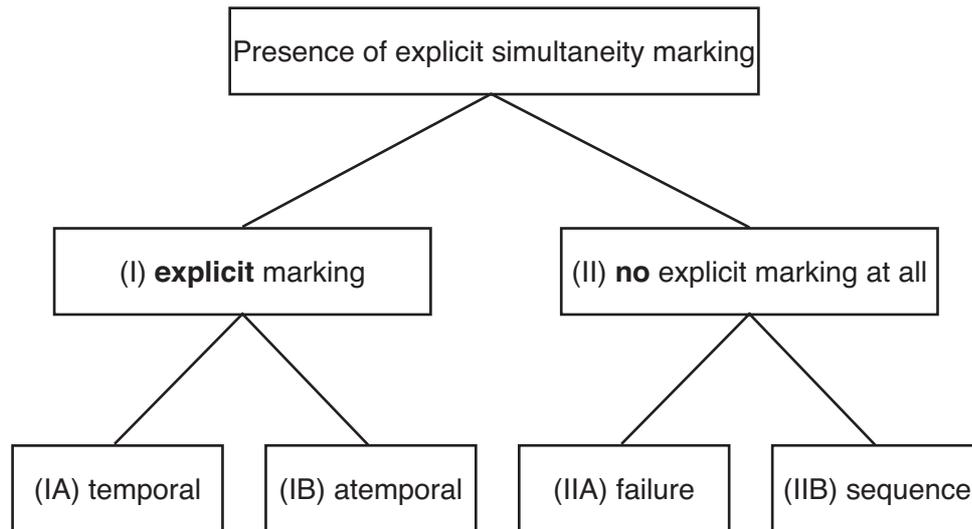
Figure 5.2   Coding system for dependent variables - an overview

- *Presence of explicit simultaneity marking.* At this level I examined whether temporal simultaneity was expressed explicitly (I) or *not* expressed at all (II) in the relevant part of the stimulus.

- *No explicit marking at all.* In the following step, all instances were coded where no expression of simultaneity was found. In other words, the relevant scene selected for coding purposes was not accurately depicted in such a narration in terms of expressing simultaneity. Such a case was labeled a failure (IIA). It has been observed before (Schmiedtová, 2001) that learners sometimes do not mark simultaneity at all but instead express sequentiality (IIB). For this reason, this dependent variable was included in the data analysis.

- *Explicit simultaneity marking.* At this level, I distinguished between the two possible ways for marking simultaneity explicitly: (IA) explicit temporal marking (e.g. *when*-clauses), and explicit atemporal marking (e.g. spatial expressions) (IB). For a detailed description and discussion of these categories, see chapter 3.

- *Explicit atemporal means* (IB). The use of any kind of explicit *atemporal* device was coded in this dependent variable. For more background information, see chapter 3, section 3.5.

- *Explicit temporal means* (IA). At this level I investigated what type of temporal means were employed for explicit marking of simultaneity. The following means were considered:

```
                                        ┌─── (IAa) Aspectual marking
                                        ├─── (IAb) Adverbials
(IA) Explicit temporal devices ═════════├─── (IAc) Phase verbs
                                        ├─── (IAd) Prepositional phrases
                                        └─── (IAe) When-clauses
```
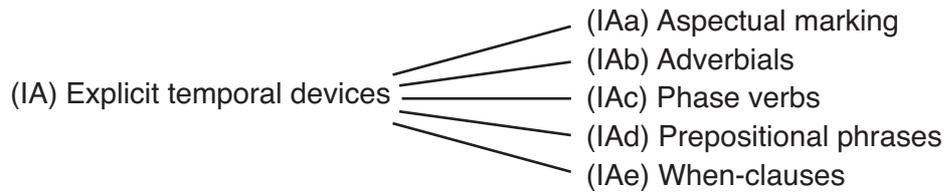
Figure 5.3   Coding system for explicit temporal devices

- *Aspectual marking overall (IAa).* This dependent variable reflects whether speakers choose to use aspectual means in order to mark temporal simultaneity. In particular this can be done either (1) by aspectual contrast (perfective aspect in contrast with imperfective aspect) or (2) by aspectual juxtaposition (imperfective aspect in combination with imperfective aspect). In addition, I coded for (3) juxtaposition of two marked perfective verbs, which does not independently express temporal simultaneity but rather temporal sequence. In combination with certain other lexical devices (such as an adverbial) the sequential interpretation can be overruled and a simultaneous one put forward instead.

```
                                  ┌── aspecttual contrast
                  ┌── simultaneity ┤
(IAa) Aspectual marking ┤          └── aspectual juxtaposition
                  └── sequentiality ──── two marked perfective verbs
```
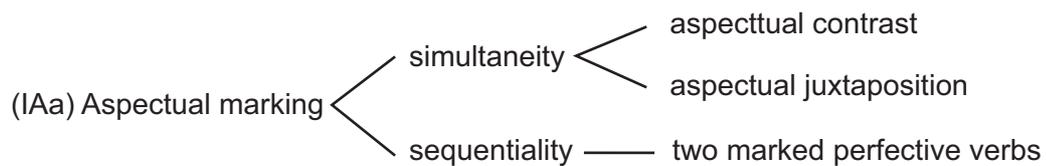
Figure 5.4   Coding system - aspectual marking

On the basis of an initial qualitative and quantitative analysis, three different patterns could be established. Each of them represents the preferred way in which native speakers of Czech, English, and German express simultaneity using the explicit temporal means of their mother tongue. For convenience, the data were recoded so that these three patterns would be assigned a separate variable.

- *The stronger aspectual style.* Only aspectual marking (contrast or juxtaposition) is used for expressing temporal simultaneity.

- *The adverbial style.* No aspectual marking that would express simultaneity on its own is employed. Instead, temporal simultaneity is conveyed by means of adverbials. Note that although the presence of aspectual contrast and juxtaposition is excluded here, the combination of two marked perfective verbs is not. The default interpretation of two juxtaposed marked

perfective verbs is sequential but can be cancelled out by the presence of an adverbial.

• *The weaker aspectual style*. Aspectual marking is used in combination with any other type of explicit temporal device (e.g. adverbials, *when* - clause).

Ways of expressing simultaneity — the stronger aspectual style / the adverbial style / the weaker aspectual style
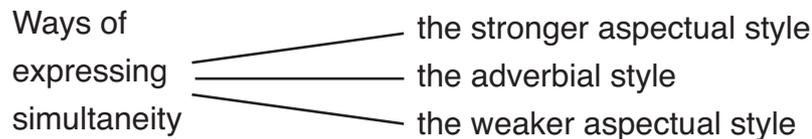
Figure 5.5   Coding system - three ways of marking simultaneity

To sum up: the coding of independent as well as dependent variables was outlined. Independent variables are either manipulated or classifying variables. In the database, one manipulated and seven classifying variables were identified. Every coded independent variable was introduced and briefly discussed. The same procedure was applied to dependent variables that were defined as measures of the effects of the independent variables. It was also shown that the selected stimuli constitute an exemplary testing set because they did not differ with respect to how often explicit simultaneity was triggered.

5.3 Data analysis

Data analysis in the present study was carried out by using qualitative (descriptive) and quantitative (statistical) analysis. The idea behind this was the following: on the basis of a detailed descriptive analysis, interesting details could be noticed, which may not otherwise have been detected by means of statistical analysis. These qualitative details often revealed important, subtle differences between groups as well as the performance(s) of individual speakers. Even if there was no statistical significance[3] in such findings, they still contained important information about a speaker's linguistic preference and behavior.

---

[3] Sample size is of course an important factor in statistical analysis. In the case of detailed linguistic data analysis, the variation between speakers is very high and therefore linguistic analyses are usually based on the performance of only a very small sample. This is the main reason why it does not make sense to apply statistical tests to such cases.

Quantitative statistical analyses, on the other hand, were used as tools for conforming the nature of tendencies found in the qualitative data analyses. In other words, statistical tests were applied in order to examine whether the findings could be generalized over a larger population.

In this study, I make a complementary use of both analysis types. For this reason, significant findings as well as linguistically important details are reported.

5.3.1 Qualitative analysis

Qualitative analysis can be applied in many ways. In this study, the two main application domains were (a) classification, and (b) to check for systematic/productive use of a particular linguistic device.

(a) Initially, the database was searched for recurrent linguistic expressions of simultaneity on which basis the fundamental split between explicit and implicit and further explicit temporal and explicit atemporal devices could be established.

(b) In the case of aspectual marking, for example, it was necessary to find out whether learners marked verbs for perfectivity and imperfectivity in a systematic way and whether aspectual marking was used productively. This could be only established by analyzing all available retellings qualitatively.

Note that all qualitative analyses were carried out on the basis of "the set of 11" (for more detail, see section 5.1). In other words, all collected data were examined.

From what has been pointed out in this section so far, it follows that the coding scheme introduced in sections 5.1 and 5.2 was developed on the basis of a large initial qualitative analysis involving the entire database. In other words, the two procedures are intertwined.

5.3.2 Quantitative analysis

Nonparametric statistics were used, in particular the chi-square test for comparing proportions within one sample. Additionally, the z-test was applied in order to compare proportions from two independent samples.

In the field of psycholinguistics, the choice of nonparametric statistics is not as common as that of parametric statistics. There are two reasons why nonparametric statistical tests were selected for data analysis in this study:

(1)   The level of measurement achieved in the research

It is assumed for parametric test statistics that the experimental scores must be measured on an interval or ratio scale. If the measurement is weaker than that of an interval scale (for example nominal), the researcher would 'add information' by using a parametric test and, thereby, create distortions. Since the type of data investigated in this study is nominal, nonparametric statistics were used.

In addition, the meaningfulness of the results of a parametric test depends on other assumptions than level of measurement. These assumptions are normal distribution, and homogeneity of variance[4]. Nonparametric statistical tests do not make the assumptions of the parametric tests. They are based on a model that specifies only very general conditions and none regarding the specific form of the distribution from which the sample was drawn. Because nonparametric statistical tests are distribution-free, they can deal with data measured on a nominal scale. The only assumptions associated with chi-square, for example, are that the observations are independent, and that the variable being studied has underlying continuity. But these assumptions are fewer and weaker than those associated with parametric tests.

(2)   The underlying research question

Nonparametric procedures test different hypotheses about the population than parametric procedures. The typical hypothesis tested with chi-square (the nonparametric test used in this study), for example, is whether or not two samples are different enough in some characteristic that we can generalize that the populations from which my samples are drawn are also different in terms of this characteristic.

Note that all statistical tests were based on the narrow stimulus set. This set was labeled as the set of 5 and is restricted to the retellings of five testing items. Furthermore, within each of these five stimuli, only the relevant scene was considered (for more detail, see 5.1).

---

[4] Although the counted occurrences in the nominal data from this study are frequencies, these assumptions do not permit the application of parametric tests.

5.4 Summary of the data analysis

For the quantitative analysis of the data used in this study, nonparametric statistical tests, in particular the χ^2 test, were employed. Although theoretically less powerful than parametric tests, these tests are more appropriate because they make fewer assumptions about the distribution of the data. Parametric tests assume that the scores being analyzed result from measurement on at least an interval scale. However, the data investigated here are measured on the most basic scale, the nominal scale. Therefore, the best way to treat the data appropriately is to apply nonparametric statistical tests.

Apart from the nonparametric statistical tests described above, the z-test for comparing proportions from two independent samples was used. This test makes it possible to deal with differences between two independent samples in a very simple manner. For instance, one can test the difference in the proportions of German vs. English native speakers that use explicit *temporal* means for expressing simultaneity.

In a nutshell: the χ^2 test is used when two or more different variables within one, two or several samples are tested. These samples are established on the basis of language background (Czech, English, and German), the subject's status (native, learner), and the level of proficiency (basic, medium, advanced). Depending on the research question, the data can be grouped according to different principles: all native speakers together, all learners together, all tutored learners, all untutored learners, etc. In addition to the χ^2 test, the z-test was applied, in all cases where the difference between proportions in two independent populations was of interest.

In this chapter, the use of explicit linguistic devices by native speakers in their mother tongue will be described. There are no previous research findings regarding the linguistic expression of temporal simultaneity I could build upon and/or use as a baseline.[1] Therefore, the current findings represent the starting point for (a) narrowing down the set of possible explicit devices for the expression of simultaneity as discussed in chapter 3 to the actual native language usage by Czech, English, and German speakers; and (b) exploring the expression simultaneity from a second language acquisition point of view. While the latter point is the topic of the following chapter, in what follows the focus is on the first point (a).

Each category was investigated from two perspectives: (1) on the basis of qualitative analysis, I explore which explicit means were employed by speakers in each native group for the expression of simultaneity.[2] (2) on the basis of quantitative analysis, the most prominent differences between the three native groups are outlined and discussed. In other words, I first sketch the overall picture by reporting general frequencies (in percentages) and then highlight statistically significant differences. In addition, some prototypical examples and an interpretation of the results is provided.

Three language specific patterns for marking temporal simultaneity are distinguished:[3] the stronger aspectual style aspectual way used by Czech native speakers, the weaker aspectual style favored by English native speakers, and finally the adverbial style, which is essential for the expression of simultaneity in German. In addition, the range of possible means for expressing simultaneity

---

[1] The only exception is Bohnemeyer's doctoral thesis (1998a) dealing among other topics with the expression of simultaneity in German.

[2] In general, results reported in the present chapter hold true for the majority of subjects. If this is not the case, I point this out explicitly and account for this deviance.

[3] These specific patterns were established on the basis of a comparison between the three native groups. In this sense, Czech and English native speakers show the same preference for the weaker aspectual style. However, they differ in that the Czech group also makes use of the stronger aspectual style.

as described in chapter 3 will be compared to the current use by native speakers of each language investigated.

As previously mentioned (chapter 5, section 5.1), a narrow stimulus set was used for the following analyses, namely the set of 5, restricted to retellings of five testing items. Furthermore, within each of these five stimuli, only the relevant scene is taken into consideration. I refer to these data as all analyzed data points. In some instances, the entire movie set (the set of 11) was analyzed. These cases are explicitly mentioned.

The order in which the investigated languages are discussed is as follows: Czech as the target language first, then English language (i.e. English native speakers speaking English) and finally German (i.e. German native speakers speaking German).

```
                    ┌─────────────────────────────────┐
                    │  Explicit simultaneity marking   │
                    └─────────────────────────────────┘
                               /          \
              ┌──────────────┐              ┌──────────────┐
Level 1       │ present (+)  │              │  absent (-)  │
              └──────────────┘              └──────────────┘
                  /        \
        ┌──────────────┐  ┌──────────────┐
Level 2 │  temporal    │  │  atemporal   │
        └──────────────┘  └──────────────┘
```
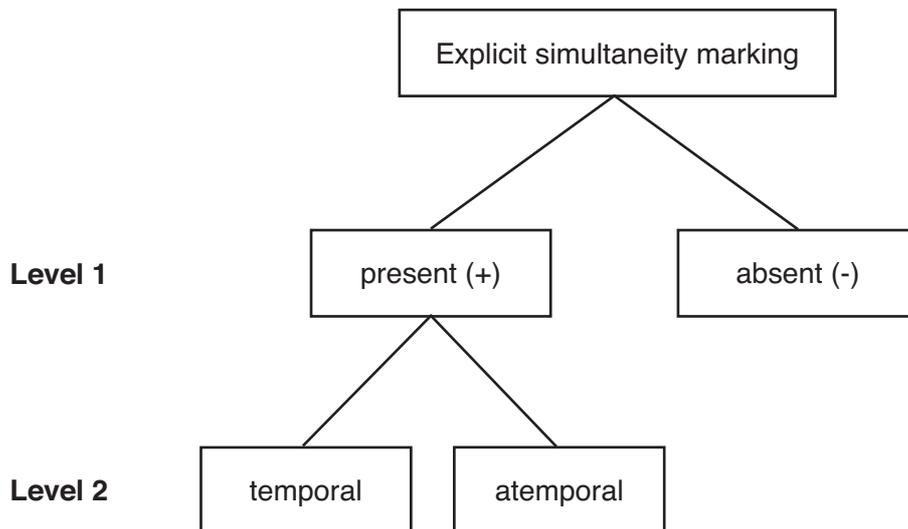
Figure 6.1　　Explicit simultaneity marking - a general overview

6.1 The overall picture

In the first section, the use of explicit means will be investigated. This involves their overall use, the use of temporal/atemporal means and also the absence of explicit marking devices. Further, I address the question of whether or not any differences can be established regarding explicit marking or its absence between the three native groups. For the differentiation of means, consider Figure 6.1:

Native speakers of Czech mark simultaneity[4] explicitly in 83% (73 occurrences) of all analyzed data points. In 16% (13 occurrences) of all analyzed data points, the relevant scene selected for this analysis are not marked for simultaneity at all.[5] Only in one instance was sequentiality incorrectly expressed instead of simultaneity (see below). These findings are summarized in figure 6.2:
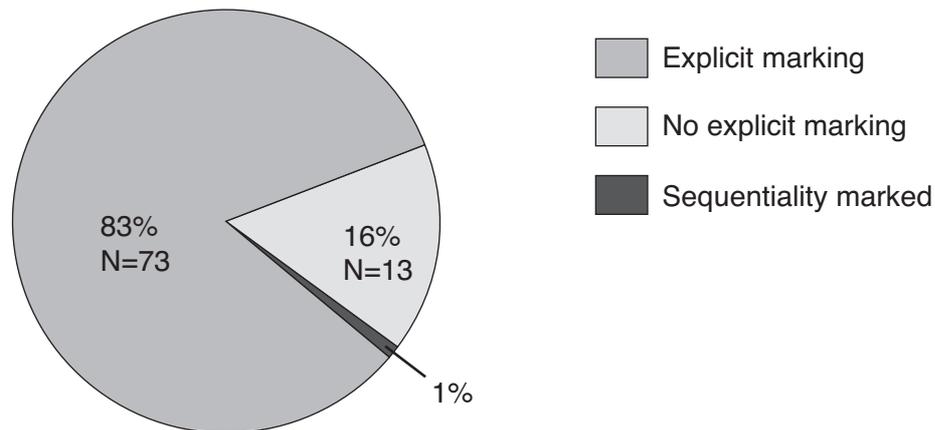
Figure 6.2   The overall use of explicit and other marking of simultaneity by Czech native speakers

Native speakers of English mark simultaneity explicitly in 87% (79 occurrences) of all analyzed data points. 12% (11 occurrences) of all analyzed data points represent failures, i.e. simultaneity is not marked explicitly at all. Like in the Czech data, I found one occurrence of marking sequentiality in place of simultaneity (for an example, see below). These findings are summarized in figure 6.3:

---

[4] The occurrences of explicit and any other marking of simultaneity (cases of marked sequentiality) were counted only with respect to the crucial scene selected in the stimulus (for more detail, see chapter 5, section 5.1).

[5] Remember that no expression of simultaneity occurs when explicitly marked simultaneity is completely absent. In addition, a simultaneous interpretation can not be inferred from any other sources, such as implicit means.
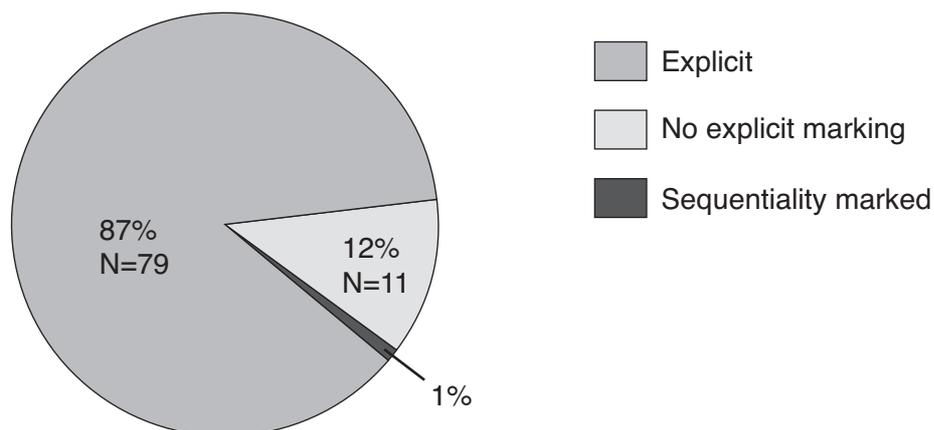
Figure 6.3   The overall use of explicit and other marking of simultaneity by English native speakers (speakers English)

German native speakers use explicit devices for expressing simultaneity in 84% (70 occurrences) of all analyzed data points. The relevant scene is not marked for simultaneity at all 14% of the time (12 occurrences). 2% of the time, sequentiality was marked where simultaneity was expected (for discussion, see below). These results are illustrated in figure 6.4:
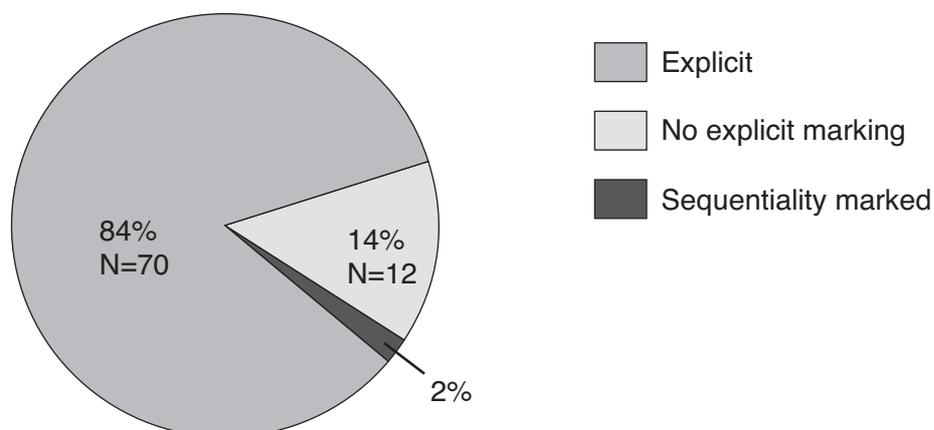
Figure 6.4   The overall use of explicit and other marking of simultaneity by German native speakers (speaking German)

Figures 6.2 though 6.4 show that all native speakers use explicit devices in a comparable way. In fact, a z-test revealed that no significant difference can be established between the three native groups when speaking their native language (z = 0.24 [Eng vs. Ger]; z = 0.32 [Eng vs. Cz]; z = 0.27 [Cz vs. Ger], n.s.). This means that in all three languages native speakers used explicit devices (temporal and atemporal collapsed together) equally often when expressing simultaneity.

Before moving over to the use of temporal/atemporal devices, the marking of sequentiality instead of simultaneity will be addressed briefly. As mentioned in chapter 6, subjects sometimes do not mark simultaneity at all but instead express sequentiality (cf. section chapter 5, 5.2.2). Expressed sequentiality can be seen as a total absence of simultaneity marking and is therefore included in this analysis.

There is only one occurrence of marking sequentiality instead of simultaneity in the Czech native data. In this single case – example (6.1)[6], - sequentiality is marked explicitly by the temporal adverbial *potom* 'then' in combination with perfectivization of both verbs.

(6.1)   Muž běží
      a rozsvěcí jednotlivé kanceláře,
      a vběhne do ledničky
      a nalije si nápoj,
      a *potom* se kouká z okna na dívku.   (SUB6POINT_CZ)

      'A man is running
      and he is switching off lights in individual offices
      and he runs into a fridge
      and he pours himself a drink
      and *then* he is looking from the window at a girl'

Similar to Czech, only one occurrence of marking sequentiality instead of simultaneity can be found in the English native speakers. In this single case (example (6.2)), sequentiality is not marked explicitly by a temporal adverbial. The connective *and* is used instead, which simply expresses a temporal shift from one scene to another without the explicit marking of either sequentiality or simultaneity. However, in such a case the interpretation is sequential according to the PNO. Additionally, the verb forms are simple, not marked for progressivity, telic and bounded.

(6.2)   And he goes over
      and licks off all the ketchup and mustard
      after giving her a good look
      and brother opens the door
      and gives his brother a wink   (SUB39POST_ENG)

---

[6] The relevant movie-scene considered for the purpose of the present analysis showed the overlap of a man standing at a window and a woman looking or smiling at him.

Finally, only two occurrences of marking sequentiality instead of simultaneity can be found in the German native data. In both instances, sequentiality is expressed explicitly by a temporal adverbial (*dann* 'then', *nachdem* 'after that'). The next example illustrates sequentiality between the event of *drinking* and the event of *seeing* in German.

(6.3) Ein Mann läuft durch ein Hochhaus,
und sucht auch anscheinend irgendetwas,
und findet das dann in einem Kühlschrank,
und *nachdem* er das zu sich genommen hat,
ist er *dann* so abgekühlt, so cool,
und dass er *dann* da aus dem Fenster heraus seine Freundin sieht,
die er dann begrüssen kann. (S2SUB24POINT_GER)

'A man is running through a office building
and he is obviously looking for something,
and finds it in a fridge
and after he has had it,
he is then so cool
and that, he can there then see his girlfriend from the window,
whom he can then say hello to.'

In summary, all native speakers show the same pattern: they hardly ever express sequentiality where expression of simultaneity is expected. Nevertheless, in order to provide a complete general overview, it is important to mention their occurrence. Furthermore, examples (6.1) through (6.3) clearly illustrate that native speakers also employ other temporal relations like after and before.

Following figure 6.1, at level 2, a further distinction is made between temporal and atemporal explicit devices. First, I examine the use of these means by Czech native speakers, then proceed to the English and German native group.

Where Czech native speakers express simultaneity, it is done by explicit temporal means in 92% (77 occurrences) of cases. The use of explicit atemporal markers is limited to 8% (7 occurrences) of all analyzed data points. Obviously, explicit temporal means occur far more often than atemporal means (χ^2 (1) = 48.3, p<. 05).

English native speakers speaking English also mark simultaneity using mainly explicit temporal means - 76% (66 occurrences) of the time. The use of explicit atemporal means is reduced - 24% (21 occurrences) of all cases. Statistical

analysis showed that English native speakers employ temporal means more frequently than atemporal means (χ^2 (1) = 23.3, p <. 05).

German native speakers speaking German use explicit temporal devices more than half of the time - 62% (53 occurrences). Note that the use of explicit atemporal means (38%, 33 occurrences) is higher than in the other two data sets. However, the trend observed in English and Czech native speakers also holds true for German native speakers: temporal means are employed by German native speakers more often than atemporal means (χ^2 (1) = 4.65, p <. 05).

In the following section, the three native groups will be compared with respect to the use of explicit temporal marking. A z-test revealed the following pattern: Czech native speakers use temporal devices more frequently than English and German native speakers (z = 2.79 [Cz vs. Eng]; z = 4.61 [Cz vs. Ger]; p < .05). Additionally, English native speakers use explicit temporal devices more often than German speakers (z = 2.02, p < .05).

Looking at the usage of atemporal simultaneity marking, the picture looks different. German native speakers use more atemporal devices than English and Czech native speakers (z = 4.61 [Ger vs. Cz]; z = 2.02 [Ger vs. Eng]; p < .05). At the same time, English native speakers employ atemporal means more often than Czech (z = 2.79, p < .05). The findings regarding the usage of temporal and atemporal devices for simultaneity marking by native speakers are summarized in the following figure:
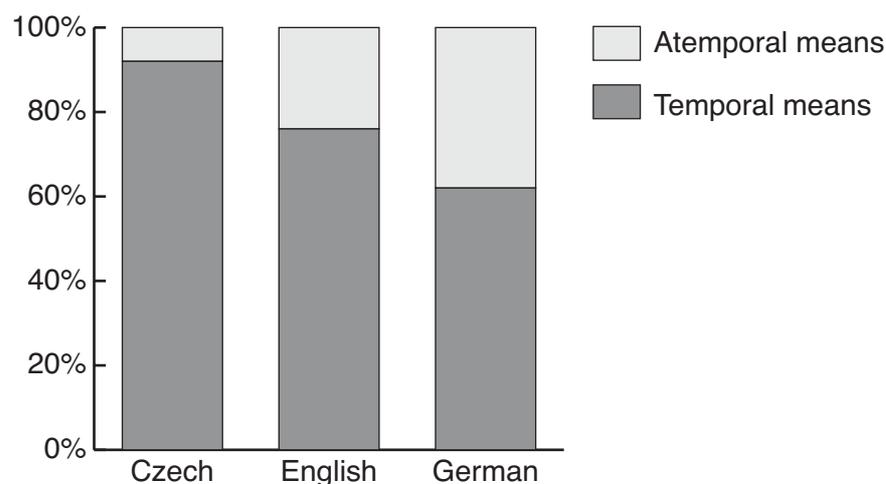

Figure 6.5   The use of temporal/atemporal means by all native groups

In sum, all native speakers produce a comparable number of explicit means that are equally distributed across all testing items when expressing simultaneity. Furthermore, all native speakers prefer to use temporal rather than atemporal means for expressing simultaneity. When comparing groups with each other, however, another pattern emerges: Czech native speakers use more temporal devices than any other native group.

The English native group is located between the German and the Czech native groups. Yet, a statistical analysis revealed that English native speakers differ more from the Czech than from the German group. In this manner, English native speakers behave more like German native speakers in that they tend to employ more atemporal means than Czech native speakers. Still, they employ them significantly less frequently than German native speakers (cf. figure 6.4).

The results suggest that all native speakers have a preference for using explicit temporal means for marking simultaneity. In the Czech data, this choice is more pronounced because the use of atemporal means is rather minimal. In other words, Czech native speakers do not rely on atemporal means as an alternative strategy when expressing simultaneity.

This is quite different for English native speakers and in particular for German native speakers. In fact, Germans have only a slight, though significant, preference for temporal devices. German native speakers make a relatively balanced selection between temporal and atemporal means. A similar tendency, though not as strong, can be observed in English native speakers. In sum: as far as the general use of explicit temporal and atemporal devices is concerned, Czech native speakers behave differently from English and German native speakers, and hence form a separate group. I will discuss the interpretation(s) of these findings in section 6.3. Let us now turn to a more detailed description of the use of explicit temporal means.

6.2 Explicit temporal means

Since the use of explicit temporal means is the Czech, English, and German native speakers' predominant strategy for expressing simultaneity, I go into a more detailed description of these means here. Each language will be treated individually in a separate subsection.

6.2.1 Czech

As outlined in chapter 3, Czech theoretically has the option of expressing simultaneity by using (i) aspectual marking only, (ii) aspectual marking in combination with some additional explicit device, (iii) no aspectual marking (in the sense of aspectual contrast/juxtaposition) in combination with an explicit temporal device. In addition, inchoative verbs can be employed.

The use of explicit temporal means almost always involves the presence of aspectual marking in 90% of cases (68 occurences). The remaining 10% (8 occurrences) represent the exceptional cases where the aspectual contrast/juxtaposition[7] is absent, nevertheless, simultaneity is expressed by other temporal means. I discuss this atypical option later.

The next question is how often Czech native speakers employ aspectual marking in isolation and in combination with some other explicit device when expressing simultaneity. As far as the use of aspectual contrast without any additional explicit means for expressing simultaneity (i.e. use in isolation) is concerned, the Czech use this option only 21% (14 occurrences) of the time. In the other 79% (54 occurrences) of cases, aspectual marking is used in combination with some other explicit device such as an adverbial (i.e. used in combination). Aspectual marking is used more often in combination than in isolation (χ^2 (1) = 23.5, p <. 05).

In isolation as well as in combination, the proportion of the two relevant aspect combinations is very similar: contrast occurs 71% (10 occurrences) of the time in isolation, 78% (38 occurrences) in combination; juxtaposition 29% (4 occurrences) in isolation and 22% (16 occurrences) in combination. For a better overview, consider figure 6.6:

---

[7] Recall that aspectual marking is either represented by aspectual contrast or juxtaposition (cf. chapter 3, section 3.1.1). In aspectual contrast, an imperfective and a perfective verb are contrasted; in aspectual juxtaposition two imperfective verbs are combined.
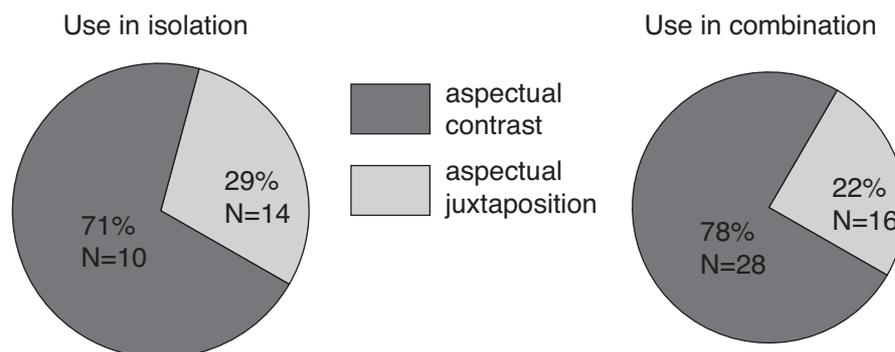
Figure 6.6   The proportion of the aspectual contrast/juxtaposition used in isolation or in combination by Czech native speakers

As shown in figure 6.6, Czech native speakers use aspectual contrast more often than aspectual juxtaposition. The difference between the use of aspectual contrast and aspectual juxtaposition is significant when used in combination with a lexical device (χ^2 (1) = 8.5, p <. 05), but not significant when used in isolation (χ^2 (1) = 2.57, n.s.)[8].

I refer to the use of aspectual marking in isolation as *the stronger aspectual style* and the use of aspectual marking in combination as *the weaker aspectual style*. Consider several prototypical examples of the stronger aspectual style that were produced by Czech native speakers. One typical example of the weaker aspectual style will be provided here as well. However, I will focus on the weaker aspectual style at a later point.

(1) The stronger aspectual style: contrast between Imperf and Perf:

(6.4)   Tak on to *slízává* (Imperf),
        někdo *otevře* (Perf) dveře   (SUB33POST_CZ)

        'So he is licking it off,
        somebody opens the door'

(2) The stronger aspectual style: contrast between Perf and Imperf

(6.5)   Gejzír *vystříkne* (Perf) ze země,
        oni *se přízpůsobují* okolí (Imperf)   (SUB70GEYS_CZ)

---

[8] In the case of use in combination the effect is not significant. This result could be due to low statistical power (cf. Cohen, 1977).

'A geyser sprays out of the earth,
they [the protagonists] are adapting to the environment'

(3) The stronger aspectual style: juxtaposition of two Imperf

(6.6)   On ty všechny ingredience *slízává* (Imperf)
        otevírají se (Imperf) dveře   (SUB9POST_CZ)

        'And he is licking off all the ingredients
        the door is opening'

(4) The weaker aspectual style: aspectual contrast + temporal adverbial

(6.7)   Tak takovej tlustej chlapík sedí,
        kouká se (Imperf) na televizi,
        přičemž (AdvP) *přiběhnou* (Perf) lidi z technickýho týmu pro
        formuli jedna   (SUB10FORM_CZ)

        'So some fat fellow is sitting, watching television,
        at the same time people from a technical team for Formula one run in'

A general tendency can be observed in the Czech data:

(1) Overall, the preferred aspectual constellation is the contrast between a perfective and an imperfective verb.

(2) Although simultaneity can be also expressed by means of the stronger aspectual way (only aspectual marking), the prevailing strategy is to use the weaker aspectual style (aspectual marking in combination with lexical devices).

Because of the latter point, I focus on the additional explicit temporal devices used in combination with aspectual marking to depict simultaneity in the weaker aspectual style. In table 6.1 a list of these devices is given. On the right side of the table is the number of occurrences. Information regarding the distribution of the two types of aspectual marking is provided after every example:

		nr. of occurences	contrast	juxtaposition
	(1) Temporal adverbials	18	12	6
	(2) Phase verbs	6	4	2
	(3) When-clauses	4	4	0
Aspectual marking +	(4) Temp. adverbials + phase verb	17	10	7
	(5) Temp. adverbials + when-clause	4	3	1
	(6) Temp. adverbials + phase verb	3	2	1
	(7) When + phase verb	1	1	0
	(8) Temp. adverbials + phase verb + when-clause	1	1	0

Table 6.1   Explicit temporal devices used by Czech native speakers in combination with aspectual marking

It can be concluded from table 6.1 that adverbials are employed most of the time. Phase verbs are also favored when Czech native speakers express simultaneity in the relevant scene. Moreover, these two devices often occur together. Before these observations are looked into more closely, each individual combination (1 through 8) will be illustrated with an example.

(1) Aspectual marking + adverbial only[9]   (SUB19FORM_CZ)

(6.8)   Muž sedí na gauči,
a *kouká* (Imperf) asi na televizi,
a *během* (TAdv) toho *přijdou* (Perf) další muži v bílých kombinézách s vrtačkami

'A man is sitting on a sofa,
and he is probably watching TV,
and during this, other men in white overalls with drills come in'

(2) Aspectual marking + phase verb only   (SUB6FIRE_CZ)

(6.9)   *Začne* (Phase) tam *hořet* (Imperf),
přijde (Perf) muž

It starts to burn there,
a man comes in

(3) Aspectual marking + when-clause only   (SUB36POINT_CZ)

(6.10) On rozsvěcuje světla v pracovních místnostech.
A *když* (Conn) květinářka *vyjde* (Perf) ze svého květinářství,
tak ta šipka *směřuje* (Imperf) přesně k jeho oknu.

---

[9] *Only* means that a lexical device, for example, an adverbial, is the only additional device that is used in combination with aspectual contrast/juxtaposition. As shown, more than one additional device can be used in such a combination.

He is switching on lights in offices
and when the florist comes out of her flower shop
the arrow is pointing directly to his window.

(4) Aspectual marking + adverbial + phase verb   (SUB5FIRE_CZ)

(6.11) Děj spočívá v tom,
        že *během* (TAdv) nějaké klidné doby na hasičské stanici,
        i když tam občas někdo *prochází* (Imperf),
        začne (Phase) v nestřeženém koutku *hořet*.

        'The plot is that during some quiet period of time in a fire station,
        although from time to time somebody is walking there,
        it starts to burn in an unguarded corner'[10]

(5) Aspectual marking + temp. adverbial + when-clause   (SUB36FIRE_CZ)

(6.12) *V okamžiku* (AdvP), *kdy* (Conn) telefon *zachvátí* (Perf) plameny,
        tak v prvním okně *přichází* (Imperf) k požárnickému vozu hasič

        'At the moment when the phone is overwhelmed by the flames,
        in the first window, a fireman is coming towards the fire engine'

(6) Aspectual marking + adverbial + phase verb   (SUB40CALV_CZ)

(6.13) a *začne* (Phase) ten tu hořčici *slízávat* (Imperf)
        a *v tom* (AdvP) *přijde* (Perf) jeho starší brácha

        'and he starts licking off this mustard
        and at this moment[11] his older brother comes in'

(7) Aspectual marking + phase verb + when-clause   (SUB55APEL_CZ)

(6.14) a *když* (Conn) *běží* (Imperf) ten časový spínač,
        tak se *začne* (Phase) *chvět* (Imperf) země

        'and when the time switch is running,
        the earth begins to rumble'

---

[10] Note that the expression of simultaneity in this example is doubled: (1) the adverbial 'during' frames both events into one time interval. (2) within this frame, the first event is encoded as an imperfective and the second event as a phase verb, which results in aspectual juxtaposition.

[11] The correct English translation of the Czech *v tom* is indeed *at this moment*. In this sense, *v tom* is an ellipsis of the temporal adverbial *v tom momentě*.

(8) Aspectual marking + adverbial + phase verb + when-clause

<div align="right">(SUB5APEL_CZ)</div>

(6.15) *Přičemž* (AdvP)**,** *když* (Conn) se *začnou* (Phase) nadšeně
   fotografovat (Imperf) před nějakým gejzírem,
   tak cosi vzbudí (Perf) jejich pozornost

   'During the time when they enthusiastically start
   to photograph in front of a geyser
   something gets their attention'

In summary, Czech native speakers favor the combination of aspectual marking, adverbials and phase verbs.[12] The second most popular way for Czech native speakers to use explicit temporal devices is to combine aspectual marking only with an adverbial.

There are several other options for combining one or even two additional lexical devices with aspectual marking. Note that the presence of aspectual marking is the default and can therefore be seen as the fundamental building block for expressing temporal simultaneity in Czech. Although aspectual marking can express simultaneity on its own (the stronger aspectual style), it is mostly used in combination with other explicit means.

Finally, the combination of a perfective and an imperfective verb (both orders considered) resulting in aspectual contrast is the most common variety in the Czech data set.

From a formal point of view, the use of aspectual marking alone is sufficient for the expression of simultaneity (cf. chapter 3, section 3.4). Hence, the question arises why Czech native speakers use additional explicit devices when expressing simultaneity?

There is no straigthforward answer. Apparently, the difference between the aspectual way and the weaker aspectual style or any other combination used within the latter option is mostly of a stylistic nature. It appears to the author as a native speaker of Czech that in the cases where only a reduced number of means is used (i.e., the aspectual way), the speaker's intention is to retell the story in a special manner. This manner resembles the style of a detective novel

---

[12] Recall that phase verbs (inchoatives) define the beginning of a situation and have to take an imperfective as a complement in Czech. In other words, the presence of an inchoative automatically implies co-occurrence of an imperfective.

and contains an element of excitement. The more explicit markers a speaker uses, the more elaborate the retelling becomes. Yet, the informational value remains the same. As a matter of fact, to express simultaneity by means of aspect only is a rather efficient and elegant way of dealing with such a complex temporal structure. On the other hand, the weaker aspectual style dominates the input which I assume learners of Czech would be exposed to. Another plausible explanation why Czech native speakers use additional explicit devices when expressing simultaneity is because they emphase the punch line of the joke expressed in the movie.

Besides these results that represent the main tendencies in the Czech data set, there are two extra categories: (a) the combination of aspectual marking and explicit atemporal devices and (b) the combination of two marked perfective verbs in simultaneous contexts. I briefly discuss these two exceptions here and provide examples.

(a) Combination of aspectual marking and explicit atemporal means

In about 5% (4 occurrences) of the cases, the aspectual marking (contrast or juxtaposition) occurred together with explicit atemporal devices. This is demonstrated in the following example.

(6.16) Tak *uvidí* (Perf+perception verb),
že *ta* (Discourse) dívka teprve *odchází* (Imperf),
odchází teprve teď...   (SUB2POINT_CZ)

'So he spots
that the/that girl is only leaving,
leaving only now…'

Example (6.16) illustrates the co-occurrence of the aspectual marking (in the sense of aspectual contrast or juxtaposition) and several atemporal devices. These are: perception verb *uvidět* 'to spot', and the demonstrative *ta* 'the/that' indicating that the referent *dívka* 'a girl' has been introduced earlier in the discourse (for a detailed discussion, see chapter 3, section 3.5.2.3). These atemporal devices are combined with aspectual contrast between the perfective verb *uvidí* associated with the male protagonist and the imperfective verb *odchází* related to the action carried out by the female protagonist.

It would not be appropriate to ignore the presence of an explicit atemporal device in such a construction. Moreover, it is tricky to decide what assigns the simultaneous interpretation to such an utterance in the first place. As shown

earlier, the mere presence of aspectual marking is sufficient for expressing simultaneity. In addition, expressing simultaneity by means of aspectual marking is more direct and less ambiguous than using atemporal means for this purpose.

In line with this logic, these special cases were analyzed as follows: the simultaneous reading comes from the aspectual marking (contrast or juxtaposition) and is strengthened by the presence of the atemporal marking item. In other words, all these cases were coded as 'marked by explicit temporal devices', primarily by the means of aspect, falling into the category of aspectual marking in isolation (= the stronger aspectual style).

(b) Combination of two marked perfective verbs in simultaneous contexts

As stated previously (see chapter 3, section 3.1.1), the juxtaposition of two simple or marked perfective verbs need not indispensably lead to a sequential interpretation. Simultaneity can namely be expressed without using the means of aspectual marking. Two juxtaposed perfectives can convey simultaneity when combined with another explicit temporal device. The presence of such a device is crucial because it OVERRIDES the otherwise sequential interpretation of the juxtaposed perfectives.

In the Czech data set, this phenomenon can be observed in 11% (8 occurrences) of all instances where simultaneity is expressed by temporal devices. In all of them, the additional lexical item is a temporal adverbial. In all cases the perfective meaning of the verb is morphologically marked (cf. chapter 3, section 3.1.1). In the next example, two juxtaposed perfectively marked verbs co-occur with an adverbial:

(6.17) a *vz-planou* (Perf) plameny,
      mezitím (TAdv) *pro-jde* (Perf) muž do kamionu pro noviny
                                            (SUB8FIRE_CZ)
      'and the flames flare up,
      in the meantime a man walks by towards the truck to get a newspaper'

The first verb is marked for perfectivity by the prefix *vz-*, the second by the prefix *pro-*. Note that if the adverbial was removed, the interpretation would be sequential:

(6.18) a *vzplanou* (Perf) plameny,
      projde (Perf) muž do kamionu pro noviny

'and the flames flare up,
a man walks by towards the truck to get the newspaper'

In the next example, another adverbial is used to express simultaneity. Note that its function is parallel to the adverbial in example (6.17): it overrules the otherwise default sequential interpretation of two juxtaposed perfective verbs:

(6.19) on to *vy-čistí* (Perf)
  při tom (TAdv) ho *za-stihne* (Perf) pravděpodobně jeho starší bratr
                   (SUB5CALV_CZ)
  'he cleans it off
  and during that [thereby] probably his older brother catches him'

The combination of two perfective verbs in simultaneous contexts is rather atypical for Czech native speakers. Although they have a preferred way of expressing simultaneity, other possibilities are not automatically excluded.

A legitimate question might be why some native speakers of Czech choose to mark simultaneity via two adjacently marked perfective verbs in combination with temporal adverbials and so deviate from the general pattern observed in the data? As speculated above, one of the reasons could be an individual stylistic preference. The reason why the verb is explicitly marked by a prefix for perfectivity in all these instances is not clear.

6.2.2 English

Let us now turn to a more detailed description of the explicit temporal devices used by English native speakers speaking English. Recall that the possible devices for the expression of simultaneity in English are similar to those in Czech. Thus, we can expect native speakers to use (i) aspectual marking in isolation, (ii) aspectual marking in combination with an explicit device, (iii) an explicit temporal device alone without any aspectual support (in the sense of aspectual contrast/juxtaposition). In addition, phase verbs can be employed.

As in Czech, explicit temporal marking in English mostly includes aspectual marking - 84% of all cases (55 occurrences). In the remaining 16% (11 occurrences) of the cases, no aspectual marking (i.e. no aspectual contrast or juxtaposition) was found but instead two simple non-progressively marked verbs. In these cases, the simultaneous reading is due to the presence of an explicit temporal device: various temporal adverbials or a subordinate connective. To illustrate this, consider the following example:

(6.20) and she *comes out* (Perf) of the van
      while (Conn) he *sets up* (Perf) the camera   (SUB48GEYS_ENG)

Example (6.20) is very similar to example (6.17) or (6.19), which demonstrated the same point for Czech: the explicit temporal device (in this case the subordinate connective *while*) gives the sentence a clear simultaneous reading. Also like in Czech, this case does not reflect the main choice of English native speakers for expressing simultaneity.

As far as this main choice is concerned, English native speakers predominantly use aspectual marking in combination with another temporal device - 91% of the time (50 occurrences). The use of aspectual marking in isolation, on the other hand, is restricted to only 9% (5 occurrences) of all cases. In other words, when simultaneity is marked in English, the weaker aspectual style is used more frequently than the stronger aspectual style (χ^2 (1) = 36.8, p <. 05).

Before I continue to explore how the weaker aspectual style is constructed, the means of the stronger aspectual style should be discussed briefly. First, the aspectual contrast of a simple verb and a progressively marked verb is more frequent - 80% of instances (4 occurrences); the juxtaposition of two progressives is very uncommon - 20% of the time (1 occurrence). Since there are only five data points reflecting the use of the stronger aspectual style, no statistical test was performed.

When using the stronger aspectual style, English native speakers can also employ the present perfect.[13] It was found in only two instances, both times in combination with the progressive marker *-ing*. This combination was analyzed as aspectual contrast of two different aspects marking simultaneity explicitly. For illustration, consider the next example describing simultaneity in the testing item Geysers:

(6.21) and the three geysers *have erupted*
      and the couple *is waiting* there   (SUB28_GEY_ENG)

To complete the picture, example (6.22) depicts the use of aspectual *contrast* between a simple verb form and a progressively marked verb; example (6.23), on the other hand, demonstrates the use of aspectual *juxtaposition* encoded in English by two progressives.

---

[13] Czech does not encode perfect aspect, hence, English data differ from Czech data in this respect.

(6.22) and he *took* (Perf) a sip from his juice,
she *was coming* (Imperf) back   (SUB62_POINT_ENG)

(6.23) A man *is sitting* (Imperf) on a couch
and some men *are repairing* (Imperf) his couch   (SUB52_FORM_ENG)

Let us return to the weaker aspectual style, which is used 91% (50 occurrences) of the time. Here, an additional temporal device is required; English native speakers prefer to use (in 66%, 33 occurrences of all cases) a temporal adverbial rather than any other available lexical device. The other temporal devices used in combination are: phase verbs - 24% of the time (12 occurrences), and when-clauses - 4% of all instances (2 occurrences). Only in 6% (3 occurrences) of the cases was aspectual marking combined with more than one explicit temporal device. These results are summarized in table 6.2:

		nr. of occurences	contrast	juxtaposition
	(1) Temporal adverbials	33	24	9
Aspectual +	(2) Phase verbs	12	10	2
marking	(3) When-clauses	2	1	1
	(4) Temp. adverbials + phase verb	3	1	2

Table 6.2   Explicit temporal devices used by English native speakers in combination with aspectual marking

Furthermore, the favored type of aspectual marking in the weaker aspectual style is again the aspectual contrast (79%, 39 occurrences), which is used more frequently than aspectual juxtaposition (21%, 11 occurrences): χ^2 (1) = 9.68, p <. 05).

This finding is identical to what was observed in the Czech data. In other words, English and Czech native speakers use aspectual contrast significantly more often than aspectual juxtaposition when combining aspectual marking with an explicit temporal device.

Finally here is a set of examples that illustrates the use of aspectual marking combined with an explicit temporal device (according to table 6.2):

(1) Aspectual marking + only adverbial   (SUB22CALV_ENG)

(6.24) He *is licking off* (Imperf) the ketchup and the mustard
and *at the same time* (TAdv) his brother *walks* into (Perf) the room

(2) Aspectual marking + only phase verb   (SUB22FIRE_ENG)

(6.25) the telephone *starts* (Phase) *melting* (Imperf)
      and a fireman *walks* (Perf) into the fire station

(3) Aspectual marking + when-clause   (SUB35FORM_ENG)

(6.26) and he *is* just *living* (Imperf) the race
      when (Conn) suddenly a pit crew *comes* in (Perf)

(4) Aspectual marking + adverbial + phase verb (SUB62POINT_ENG)

(6.27) He *starts* (Phase) *running* (Imperf) around the corridors,
      in the meantime (TAdv) on the street, she *is getting ready* (Phase) to go
      (Imperf) home

In contrast to the Czech data, other multiple (e.g., adverbial + when-clause + phase verb) in combinations of explicit temporal devices are completely absent in the existing data sample. This does not mean that English native speakers never use them at all. Nevertheless, it does suggest that the use of these devices for marking temporal simultaneity is marginal.

Also, the use of atemporal devices in combination with temporal devices, in particular with aspectual marking, is absent in the part of the English sample that was analyzed. This does not imply that English native speakers do not make use of such constellations of markers in their narrations at all. This observation only holds true for the relevant scene analyzed for the purpose of this study, where no co-occurrences of atemporal devices were found that might be used to express temporal simultaneity.

In sum, English native speakers employ aspectual marking in isolation or combination. The preferred method is the weaker aspectual style where aspectual marking, contrast in particular, occurs with another explicit temporal device. The main devices used in the weaker aspectual style are represented by temporal adverbials, followed by phase verbs. Other possible temporal means are not common. Further, multiple combinations of several linguistic markers occur only rarely.

Before exploring the data produced by German native speakers, I shall compare the differences and similarities established so far between the two groups of English and Czech native speakers.

Czech and English native speakers differ with regard to their use of aspectual markers without any additional lexical devices. When comparing the groups

with each other, the stronger aspectual style is used more often in Czech than in English (z = 1.75, p < .05).

At the same time, Czech and English native speakers do not differ significantly with respect to their overall use of:

(a)   aspectual contrast/juxtaposition

This means that the general pattern is very similar: both Czech and English native speakers use aspectual marking to indicate temporal simultaneity. Further, aspectual contrast is the more frequent choice in both data sets compared to aspectual juxtaposition.

(b)   combination of aspectual marking and explicit temporal devices

This means that within each language the weaker aspectual style is used more frequently than the stronger aspectual style.

With respect to (b), a significant difference can be observed when looking at the use of individual lexical means. English native speakers use more adverbials (z = 1.98, p < .05) and phase verbs (z = 1.83, p < .05) in combination with aspectual marking than Czech native speakers. For an overview, see figure 6.7:
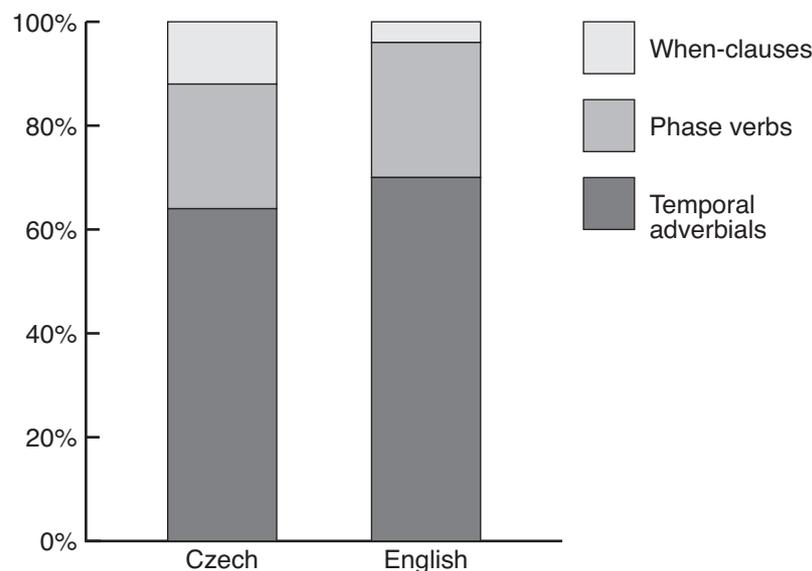

Figure 6.7   The use of lexical means by Czech and English native speakers

When comparing the overall use of simple combinations (two items) to the use of multiple combinations (more than two items), Czech native speakers use more multiple combinations than English native speakers (z = 2.43, p < .05). This finding is due to the fact that Czech speakers use a greater variety of temporal devices than English native speakers. The latter only use a narrow set of types of lexical devices and therefore the number of tokens that occur is higher. For comparison, consider the following figure:
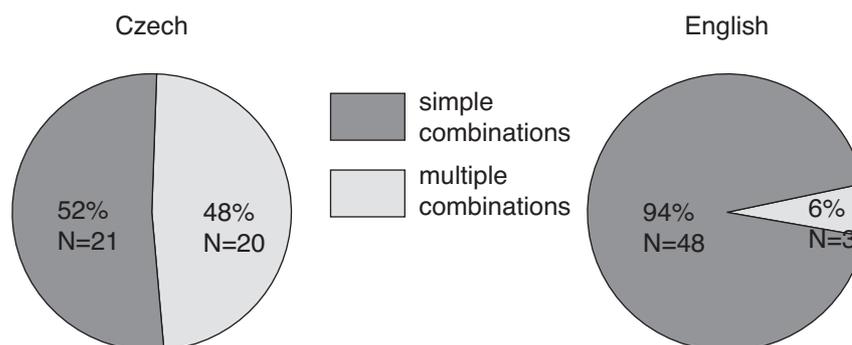

Figure 6.8   The use of simple and multiple combinations (e.g. pairs and triples) by Czech and English native speakers

English as well as Czech allow two juxtaposed perfectives in simultaneous context. The sequential reading otherwise associated with such aspectual configurations is overruled by an explicit temporal device. In both languages, temporal adverbials fulfill this function. Since there are only a few occurrences of this type of the expression of simultaneity, no meaningful quantitative analysis was possible.

6.2.3 German

In the last section, I explore the use of explicit temporal devices by German native speakers. Unlike Czech and English native speakers, German native speakers do not employ aspectual marking when depicting simultaneity. This is not surprising as German has no morphologically encoded aspectual system. Furthermore, the range of possible means for expressing simultaneity is restricted to lexical devices in German (cf. chapter 3, section 3.3.1).

The main explicit temporal devices are temporal adverbials. In 86% (44 occurrences) of all cases where simultaneity is marked explicitly, temporal adverbials are present.

As far as other lexical means are concerned, German native speakers use *when*-clauses in 6% (3 occurrences) of all cases. Although phase verbs could be used for simultaneity marking, they occur very sporadically, and then only in combination with an adverbial - 4% (2 occurrences) of the time. Since only one additional occurrence (2%, 1 token) was found where several temporal devices were combined, it can be concluded from the German data that combining multiple temporal devices is not common. Finally, a single instance of the *am*-construction was recorded, which represents 2% of all cases. These findings are summarized in figure 6.9:
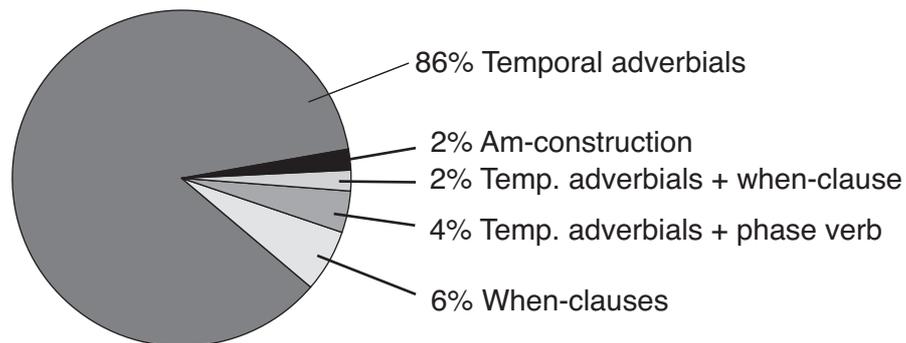
Figure 6.9 Explicit temporal devices (total N=51) employed by German native speakers

Adverbials are used more often than the other temporal means displayed in figure 6.14 (χ^2 (1) = 16.5, p <. 05). Note that all other devices than temporal adverbials are heaped together from all cases (i.e. chi-square was performed for TAdv vs. all other devices). Since adverbials are the main devices for expressing simultaneity in German, I refer to this as *the adverbial style*. To illustrate how adverbials and the remaining linguistic means convey simultaneity, consider the following examples:

(1) Temporal adverbial only   (SUB23POST_GER)

(6.28) Er geht hin,
      leckt Ketchup und Sosse ab.
      In diesem Moment (TAdv) kommt der vielleicht ältere Bruder hinein.

      'He goes over,
      licks off ketchup and sauce
      At this moment, his probably older brother comes in'

155

(2) When-clause only   (SUB4POINT_GER)

(6.29) und dann *als* (Conn) er mit dem Getränk ans Fenster geht,
          steht da unten vorm Haus die junge Dame mit dem Fahrrad

          'and then when he is moving towards the window with the drink
          the young lady is standing there below
          in front of the house with her bike'

(3) Temporal adverbial + phase verb   (SUB57POST_GER)

(6.30) und er *fängt* (Phase) dann an, an dem Poster zu lecken,
          und *in dem Moment* (TAdv) kommt sein Bruder rein

          'and he starts to lick on the poster
          and at this moment, his brother comes in'

(4) Temporal adverbial + when-clause   (SUB29POST_GER)

(6.31) und *in dem selben Moment* (TAdv), *als* er den Senf leckt,
          kommt ein anderer Mann herein

          'and at the same moment when he is licking the mustard,
          another man comes in'

(5) *Am*-construction   (SUB15POINT_GER)

(6.32) Und er trinkt seinen Saft
          und sie ist *am Weggehen* (am-constr)

          'and he is drinking his juice
          and she is leaving'

In conclusion, a rather consistent picture can be observed in the data from the German native speakers. Overall, German native speakers mainly employ adverbials as the explicit temporal devices. Some occurrences of when-clauses could also be found. German native speakers only use phase verbs in combination with other lexical devices and even then, only rarely. The German specific way of expressing simultaneity was labeled as the adverbial style (cf. for similar results Bohnemeyer 2000, v. Stutterheim & Carroll 2003).

Compare with Czech and English native speakers, the German group differs substantially. German speakers can not rely on the aspectual marking of their mother tongue, hence they make extensive use of lexical devices, adverbials in particular. In addition, while Czech and especially English native speakers frequently employ phase verbs to specify the onset of a situation, German

native speakers seldom use them, and then only in combination. Another striking difference is the extensive use of explicit atemporal devices by German native speakers. This domain is explored for all three languages in the next section.

6.3 Explicit atemporal means

As noticed already in section 6.1, Czech native speakers' use of explicit atemporal devices is minimal whereas English native speakers employ them more often, and German native speakers use them nearly as often as explicit temporal means. In this section, I will examine and discuss these differences. We proceed in the usual language order (Czech, English, German). In what follows, some examples are provided to illustrate differences between languages. In conclusion, the three native groups will be compared with each other.

Theoretically, the range of explicit atemporal devices is as broad as that of explicit temporal means. In fact, the number of possibilities for inferring simultaneity on the basis of a given context and/or extra-linguistic/shared knowledge seems to be infinite. Despite this, the use of explicit atemporal means for expressing simultaneity by Czech native speakers is marginal.

In the Czech data set, explicit atemporal markers were only found in 8% (7 occurrences) where simultaneity was marked in any way. In all these instances, the simultaneous reading was implied by other than explicit temporal devices. This means that even aspectual contrast and aspectual juxtaposition were absent. Both verbs were marked for perfectivity in 3 occurrences. In the other 4 occurrences, the verb form remained unmarked, but it had a perfective meaning. The function of an explicit atemporal device here is comparable to that of an explicit temporal device in a situation where two juxtaposed perfective verbs occur in a simultaneous context (cf. section 6.2.1). In both cases, the otherwise default sequential interpretation of two juxtaposed (marked or unmarked) perfectives is overridden by an explicit (temporal or atemporal) device. Note that the co-appearance of aspectual contrast/juxtaposition and explicit atemporal devices was not found in the data, though it is possible in principle.

In order to mark simultaneity via explicit atemporal devices, Czech native speakers employ perception verbs, anaphoric reference and spatial expressions. As pointed out in chapter 3, these devices mostly occur in combination.

Perception verbs are the most frequent atemporal devices found in the Czech data - 5 out of 7 instances. In order to illustrate the usage of atemporal devices for marking simultaneity, some relevant examples are provided (for more detail, see chapter 3, section 3.5):

(6.33) *Stoupne* (Perf) *si* někam k oknu,
okolo (Space) *projde* (Perf) *ta* (Discourse) holka,   (SUB33POINT_CZ)

‘He stands[14] somewhere next to the window
and this girl passes by’

(6.34) Z plakátu sice *slíznul* (Past, Perf) všechno,
co na něm bylo vystříknuté,
a *uviděl* (Past, Perf, Perception verb) ho (Discourse) zřejmě starší
bratr   (SUB36POST_CZ)

‘He licked off everything from the poster
that was squirted on it,
and probably an older brother saw him.’

(6.35) A najednou *uslyší* (Perf, Perception verb),
jak *vedle něho* (Space, Discourse) *převrtají* (Perf)
tu (Discourse) pohovku   (SUB6FORM_CZ)

‘And suddenly he hears
that next to him they change this sofa’

Overall, explicit atemporal devices are used quite infrequently. When Czech native speakers employ these means, they do not make use of aspectual marking but rather rely on the inherent verbal semantics, spatial terms and other contextual clues that can denote simultaneity in an appropriate context.

The number of explicit atemporal means used by English native speakers is smaller than that of explicit temporal means (atemporal: 21 occurrences, temporal: 66 occurrences). However, in comparison with Czech native speakers, English speakers use more atemporal devices than Czech native speakers (21 occurrences vs. 6 occurrences). In other words, English native

---

[14] The English translation does not reflect the fact that the verb form *stoupne si* is a perfective expressing change of state. Since the verb *stand* is a stative verb, a change of state is not part of its meaning. However, the verb *stoupne si* in example 6.35 is marked for perfectivity.

speakers use explicit atemporal means for expressing simultaneity more often than Czech native speakers (z = 2.69, p <. 05).

The most popular atemporal devices are perception verbs. Also, as pointed out at the beginning of this chapter (cf. section 6.1), explicit atemporal devices are not combined with explicit temporal devices in the English data. Note that this only applies to the relevant part of the movie analyzed for the purpose of this study. In this respect, English and Czech native speakers are very similar. For illustration, consider the following set of examples:

(6.36) she looks up,
     sees (Perception verb) *him* (Discourse),
     and smiles
     he *sees* (Perception verb) *her, too* (Discourse)   (SUB16POINT_ENG)

(6.37) and he *licks* the mustard *off* of the poster,
     and maybe his older brother comes in
     and watches (Perception verb) him (Discourse)   (SUB49POST_ENG)

(6.38) and they come
     and take away pieces of the sofa
     to put it back again
     and *the* (Discourse) man just sits *there* (Discourse/Space)
                               (SUB49FORM_ENG)

To sum up, English native speakers use explicit atemporal means 24% of the time. They prefer to use verbs of perception for this purpose. This atemporal device can appear either alone or in combination. Other explicit atemporal means are also represented in the data, however, they occur quite infrequently.

English native speakers use atemporal devices more often than Czech native speakers. Qualitatively, however, Czech and English native speakers do not differ. Both groups prefer perception verbs used either in isolation or in combination. Other possible means are employed, too, but not as frequently.

In general, thus, Czech and English native speakers behave very similarly with respect to explicit atemporal devices. The nature of the observed differences is quantitative rather than qualitative. As opposed to German native speakers, Czech and English native speakers clearly prefer to use explicit temporal devices vs. atemporal devices.

It has been mentioned in section 6.1 that although German native speakers employ both types of explicit marking for the expression of simultaneity, the

use of temporal means is only slightly higher than that of atemporal means (χ^2 (2) = 3.9, p <. 05; χ^2_{Cv} = 3.841, 3.9 > 3.841). In other words, German native speakers rely on explicit temporal as well as explicit atemporal means for marking simultaneity. In this respect, German native speakers differ from the other two native groups, where the preference for temporal means is much stronger.

German native speakers use all kinds of atemporal devices: spatial expressions, verbs of perception and discourse. Like in Czech and English, the use of explicit atemporal devices means that German native speakers do not make use of any other additional explicit temporal devices, such as adverbials. This indicates that the relevant scene is interpreted as being simultaneous exclusively on the basis of explicit atemporal means. For illustration, consider the following examples:

(6.39) Ein Mann sitzt auf einem Sofa,
        und *nebenan* (Space) bauen Boxenleute, wie aus der Formel 1,
        Armlehnen an *das* (Discourse) Sofa.   (SUB57_FORM_GER)

        'A man is sitting on a sofa
        and next to him pit-stop people as if from Formula 1 are putting arm
        supports on the sofa'

(6.40) und er leckt den Ketchup von dem Plakat ab,
        dann kommt sein Bruder ins Zimmer
        und amüsiert sich *darüber* (Discourse).   (SUB41POST_GER)

        'and he licks off the ketchup off the poster
        then his brother comes into the room
        and makes fun of it'

(6.41) Der junge Mann geht zum Fenster
        und *sieht* (Perception verb) *die* (Discourse) junge Frau.
        Sie lächelt *ihn* (Discourse) an.   (SUB38_POINT_GER)

        'The young man goes over to the window
        and sees the young woman.
        She smiles at him.'

In summary, German native speakers frequently use explicit atemporal means for marking simultaneity. The three main devices - spatial expressions, perception verbs, and discourse items - are used evenly (χ^2 (2) = 0.24, n.s.).

Compared to other native speakers, Czech and English native speakers hardly ever use explicit atemporal means for marking temporal simultaneity. German native speakers, in contrast, employ these means almost as frequently as explicit temporal means. German native speakers' use of atemporal devices is higher than that of Czech or English native speakers ($z = 4.61$, $p < .05$ [Ger vs. Cz]; $z = 2.02$, $p < .05$ [Ger vs. Eng]).

When compared to the Czech native group, English native speakers use atemporal devices more often than Czech native speakers ($z = 2.79$, $p <. 05$). From a quantitative point of view, English native speakers are located between Czech speakers, who only make minimal use of these devices, and German native speakers, who employ atemporal means very frequently. For comparison, consider figure 6.10:
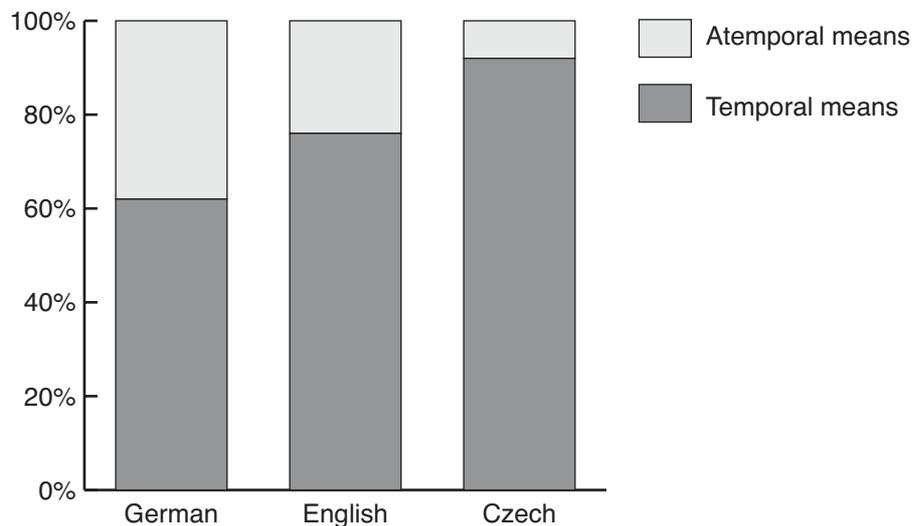

Figure 6.10   The use of temporal and atemporal means by German, English, and Czech native speakers

Possibly due to because their overall higher usage of atemporal means, German speakers do not show any preference for one specific class of atemporal devices. The other two groups, in contrast, mostly use perception verbs.

6.4 Summary and conclusions

Germans differ from the other two groups of native speakers in two respects:

(1) Aspectual marking is not employed for expressing simultaneity; hence, the use of temporal adverbials is higher than that of Czech or English native speakers.

(2) German native speakers make use of explicit atemporal means more frequently than Czech or English native speakers.

The results of (1) do not hold true for English or Czech native speakers. However, English native speakers differ from Czech native speakers in two ways: English native speakers employ more adverbials in combination with aspectual marking (but only if the adverbial is the only additional device used) and they make use of more explicit atemporal means than Czech native speakers. That is, English and German native speakers are more alike with respect to (2).

Instances of the stronger aspectual style can be found in English as well as in Czech native speakers. However, the stronger aspectual style represents a distinctive pattern only in the Czech group. Therefore, Czech native speakers differ from English native speakers with respect to how frequently they make use of the stronger aspectual.

Czech as well as English native speakers make use of several temporal devices in order to form simple (two items) or multiple combinations (more than two items). Overall, Czech speakers, use a much bigger variety of temporal means for both combination types. Moreover, they use multiple combinations more often than English speakers. In the German data, only three occurrences were found where two temporal devices are combined.

These findings imply the following systematic divisions between the investigated languages:

- *German* - the simplest: few explicit temporal devices used often, almost no combinations, no aspectual marking, atemporal devices almost as important as temporal

- *English* - less clear: more devices, few combinations, use of aspectual marking; temporal devices dominant; atemporal also present

- *Czech* – heterogeneous: many devices, more combinations, aspectual marking is fundamental; atemporal means only secondary

Following this classification, I have proposed three distinctive patterns in which native speakers of different languages mark temporal simultaneity:

- *The adverbial style* - used mainly by German native speakers

- *The weaker aspectual style* - employed mainly by English native speakers

- *The stronger aspectual style* [+ the weaker aspectual style] - adopted mainly by Czech native speakers (used more often than by English native speakers but still less often than the weaker aspectual style).

This is summarized in the following figure:
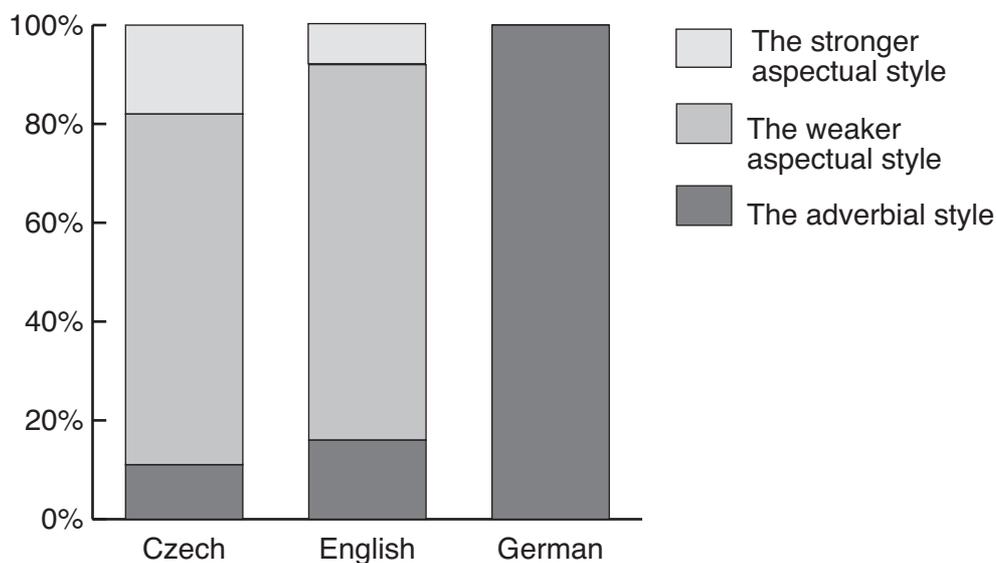
Figure 6.11   Native speakers' specific ways of expressing simultaneity

As can be seen, this classification is motivated by certain specific options that are (un)available to each individual language for marking temporal simultaneity examined in this study. These language specific availabilities naturally determine the choice of means for expressing temporal simultaneity.

Remember that occurrences of the adverbial style which is representative for Germans can be found in the Czech data as well. Their usage, however, is only marginal in comparison to the use of other possibilities. It does show that Czech native speakers sometimes turn to devices that differ from those they typically use. It has been shown that in the context of two juxtaposed perfectives, an atemporal device can have the same function as a temporal device. That is, it overrules the default sequential reading. From this view, several occurrences of the adverbial style can *also* be found in the English data.

In addition, the quantitative analysis confirms the previous assumption that Czech native speakers use aspectual contrast/juxtaposition as the fundamental building block for expressing temporal simultaneity. It is used most of the time and, moreover, it can express simultaneity on its own.

The results presented above are based on native speakers' retellings and therefore represent the actual linguistic choice that speakers with different language backgrounds make in order to express simultaneity. These findings mirror native speakers' preferences for certain linguistic devices. That is, although speakers have a preferred way of expressing simultaneity, other possibilities are not automatically excluded. In general, the only thinkable restriction in this respect is that a particular device (or a combination of devices) is completely absent in a language. For example, the nonexistence of morphologically marked aspect accounts for the absence of the aspectual contrast/juxtaposition for explicit marking of simultaneity in the German data.

When comparing native speakers' production with the introductory description of linguistic means (cf. chapter 3), we notice some similarities between what can potentially be used and what is in fact used by native speakers for marking temporal simultaneity. Several additions to the description in chapter 3 can be pointed out:

(i)   Speakers tend to use only a restricted set of lexical items and apply them in combination rather than separately. The list as described by prescriptive grammars may be exhaustive but not all of the means are in fact actively used.

(ii)   The area of explicit atemporal means is completely neglected by the available grammars of the investigated languages. Yet, it is for some speakers, especially Germans, a common strategy for expressing temporal simultaneity.

(iii)   When taking into consideration the aspectual nature of the Czech language and its influence on event encoding, marking simultaneity by means of aspect is fully expected. This study makes this prediction even more plausible by showing that, in fact, the aspectual contrast/juxtaposition is the fundamental device for expressing temporal simultaneity in Czech.

(iv)   When aspectual marking is used - either by English or Czech native speakers - the prevailing combination is the contrast between perfective and imperfective.

In the following chapter, I present elicitation data from both learner groups and compare them: (a) against each other, (b) with the production of each learner group in their respective source language, and finally (c) with the performance of the Czech native group.

This chapter describes how English and German learners express simultaneity in Czech. The focus will be mainly on explicit marking of simultaneity: (a) the overall use of these devices, and (b) the employment of temporal and atemporal explicit devices. I also review English and German native speakers' performance in their respective source languages and compare it to their performance in the target language. In addition, the differences in performance between the two learner groups at different proficiency levels is explored and compared to Czech native speakers. Here, special attention is paid to the use of aspect.

7.1 Explicit marking: the overall picture

Let us first explore the differences and similarities between English and German subjects' performances in the source and in the target languages directly related to the overall use of explicit marking. [1]

In order to provide a complete overview regarding the overall performance of learners and native speakers, I address the following issues: (1) Do native speakers and learners differ in the number of instances where simultaneity is marked by explicit temporal (e.g. aspectual markers) and atemporal (e.g. spatial expressions) means? (2) Do learner groups differ among each other with respect to the number of instances where simultaneity remains unexpressed? (3) Do native speakers and learners differ in the number of occurrences where sequentiality is marked where simultaneity is intented?

As to (1) and (2), a plausible prediction would be that native speakers will be more successful in marking simultaneity than learners and hence produce less failures. With respect to (3), one might suspect that learners would produce more instances of expressed sequentiality instead of simultaneity compared to native speakers. This prediction is based on the assumption that marking

---

[1]The English/German group of learners and native speakers refers to the same group of speakers in the sense that twenty speakers of German and twenty speakers of English performed the task in their respective source languages as well as in the target language (for more details, see chapter 5).

sequentiality represents a *fall-back strategy* adopted by learners when dealing with simultaneity marking in a target language (Schmiedtová, 2001). I hypothesized for all three issues that learners, regardless of their source language, would not differ from each other. Consider the following overview:
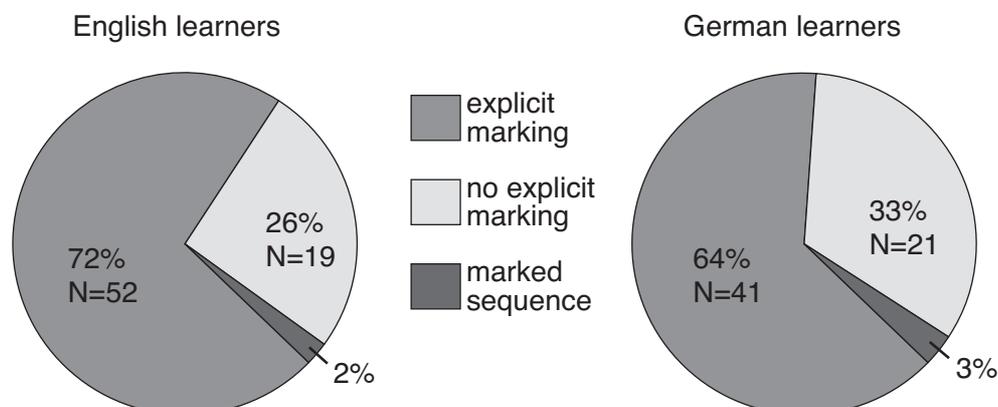

Figure 7.1   English and German learners: explicit marking, no explicit marking and marked sequence

As can be seen in figure 7.1, both learner groups are similar with respect to their general employment of explicit devices for marking simultaneity in Czech. Also, both groups produce a comparable number of "failures" (=no marking) and "marked sequences" (=in place of simultaneity). It can be concluded on the basis of these results that English and German learners' general behavior is comparable.

These findings are most likely due to learners' lack of linguistic options in the target language. This means, for example, that Czech native speakers should mark simultaneity in general more frequently than both learner groups and they do ($z = 1.86$ [Cz-native speakers vs. Eng-learners], $z = 3.04$ [Cz-native speakers vs. Ger-learners], $p < .05$).

Next, the employment of explicit temporal and atemporal means is investigated. First, I address the more homogeneous domain of atemporal devices. As shown in chapter 6, the use of atemporal means by speakers of the investigated source languages differs from that of the target language speakers. This brought up the question to what extent and how English and German learners would employ atemporal means in Czech. If learners exhibited the same trend as in their source languages, they would use atemporal means in Czech frequently. On the other hand, if German learners were more target language oriented, their use of these devices would decrease. Another possibility was that each learner group would follow a different path when

employing atemporal means for marking simultaneity in Czech. In what follows, I explore these options in a greater detail.

English learners' employment of atemporal means in Czech does not differ from that used when speaking English (z = 0.56, n.s.). However, English learners produce more atemporal means than Czech native speakers. The same holds true for German learners. German native speakers speaking German vs. speaking Czech do not differ significantly in their use of atemporal devices (z = 1.62, n.s.) but German learners use more atemporal devices than Czech native speakers (z = 2.98, p < .05). The two learner groups do not significantly differ in the use of atemporal means (z = 0.4, n.s.).

In summary, English and German subjects employ more explicit atemporal means than Czech subjects in their respective source language as well as in the target language. In addition, German native speakers speaking German use atemporal means more frequently than English native speakers speaking English. English and German learners of Czech, by contrast, show a different trend: they do not differ in their use of atemporal means. This finding suggests that learners, irrespective of their source language, follow the same path when expressing simultaneity via explicit atemporal means.

The domain of temporal means looks a little bit different. English and German subjects use an equal amount of temporal means in the source as well as in the target language (z = 0.56 [Eng-native speakers vs. Eng-learners], n.s.; z = 0.62 [Ger-native speakers vs. Ger-learners], n.s.). Only Czech native speakers use more explicit devices for marking temporal simultaneity than any of the learner groups (z = 2.61 [Cz-native speakers vs. Eng-learners], z = 2.95 [Cz-native speakers vs. Ger-learners], p < .05). Moreover, as might be recalled from chapter 6, Czech native speakers use more temporal means than English and German native speakers. Even more relevant, English and German learners do not differ significantly in their usage of temporal means (z = 0.181, n.s.). For illustration, compare the following figure:
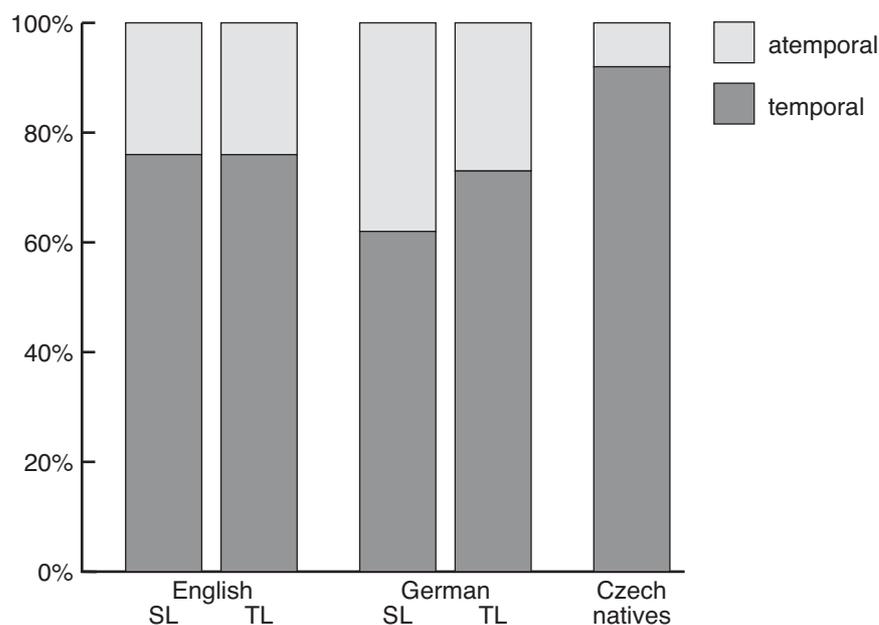
Figure 7.2 The use of temporal and atemporal means by English native speakers and learners, German native speakers and learners and Czech native speakers

As can be concluded from figure 7.2, temporal devices are always preferred over atemporal devices by all native speakers and all learners. Further, German learners' show a tendency to use less atemporal devices in the target language. I.e., while German native speakers use temporal as well as atemporal devices in the source language (cf. chapter 6, section 6.1), their use of atemporal devices in the target language Czech is reduced. Thus, the German learners' use of atemporal devices is more similar (especially in comparison to the use in their source language) to that of Czech native speakers.

A similar change in proportion of temporal and atemporal devices does not occur in the English data. The proportion remained the same regardless of whether the English subjects performed in English or Czech.

These tendencies are also reflected in the quantitative analysis. The proportion of explicit temporal is larger than the proportion of explicit atemporal means in German learners' productions (χ^2 (1) = 14.06, p < .05)). In contrast, this pattern cannot be observed in German native speakers: the use of atemporal means is comparable to the use of temporal means. English subjects also do not exhibit this tendency. There is no significant difference between the number of temporal and atemporal means respectively in their L1 and L2 performances.

The following points can be concluded on the basis of these results:

(1) German and the English learner groups used atemporal means more frequently than Czech native speakers. In other words, both learner groups display a similar tendency in using atemporal means for the expression of simultaneity in Czech. This shows that these devices represent an alternative strategy applied by the majority of learners for the expression of simultaneity in Czech. We explore this assumption later in sections 7.3 and 7.4 in connection with the individual proficiency levels.

(2) The distribution of temporal and atemporal devices by English native speakers and English learners is the same. This is an indication that English learners also use the source language system for distinguishing between temporal vs. atemporal devices in the target language. German learners, in contrast, use atemporal devices in Czech slightly less frequently than in the source language. In conclusion, when the use of atemporal/temporal devices by both learner groups is compared, German learners are more target language oriented than English learners.

To summarize, English and German learners do not differ with respect to their overall explicit marking of simultaneity. They also produce an equal number of failures, and instances in which sequentiality is marked instead of the expected simultaneity.

The only big difference established in the domain of overall explicit marking was, that of all learners and native speakers of the three investigated languages, learners failed more often in expressing simultaneity in the target language, producing fewer instances where simultaneity was explicitly marked. The difference is due to the simple fact that learners perform better in their L1 than L2. Even advanced learners are hardly ever as accurate as native speakers. These results represent an ideal base for comparisons between learner groups.

A more interesting finding is that English and German learners use more atemporal devices than Czech native speakers, though they do not differ from each other. As pointed out previously (chapter 6, section 6.2.1), Czech native speakers use atemporal means only sporadically. This means that both learner groups deviate in the same way from the target language pattern due to their increased employment of explicit atemporal means.

Since the English and German subjects used atemporal devices in their respective source languages quite frequently, it could be assumed that this finding is due to L1 inference. But, when looking at the proportion of atemporal and temporal devices within each group, it turns out that the German subjects used temporal and atemporal devices in their L1 almost equally often, while in their L2, the usage of those devices became secondary. In this sense, German learners' use of atemporal devices is more similar to that of Czech than the German native group.

However, German as well as English learners employ atemporal means more often than Czech native speakers and, in addition, the two learner groups do not differ significantly from each other. Hence, it is only plausible to assume that the use of atemporal means represents a general underlying mechanism shared by English and German learners for expressing simultaneity in Czech. In this view, the possible influence of the source language can be excluded here.

As far as temporal devices are concerned, Czech native speakers use them more often than any learner group. English subjects employ an equal number of temporal means in their retellings in the source as well as in the target language. German learners, on the other hand, use temporal devices more often in the target than in the source language. The only noteworthy difference regarding the usage of temporal devices can be found when comparing the Czech native group to any other - learner or native - group.

This finding is mainly due to the very reduced use of atemporal devices by Czech native speakers. This, in turn, raises the question of why Czech speakers strongly prefer temporal over atemporal means. The answer can be found in the dominance of aspectual marking employed most of the time when simultaneity is expressed in Czech. Further, aspectual marking is classified in the present study as one of the explicit temporal simultaneity markers. Consequently, temporal devices are employed more frequently than atemporal devices.

In the source language German, aspectual marking is completely absent. German native speakers counteract this by using more atemporal means for marking simultaneity. English has both options: to use aspectual marking and to employ atemporal means when expressing simultaneity. The fact that atemporal means are employed more often by English than by Czech native speakers, indicates that when expressing simultaneity, English native speakers rely on aspectual marking less than Czech native speakers.

This brings us to the next section: the use of explicit temporal devices by English and German learners of Czech. As I pointed out above, no differences were found between English and German learners with respect to the use of atemporal devices. For that reason, I shall explore the domain of temporal devices more closely and find out whether English and German learners display similar or different behavior.

7.2 Explicit temporal means

In what follows, I investigate the use of aspectual marking and the use of other explicit temporal devices by learners of Czech. This includes examining the overall use of aspectual marking, like the use of aspectual marking only in isolation (the stronger aspectual style) and in combination (the weaker aspectual style). I also examine the complete absence of aspectual marking (in the sense of aspectual contrast or juxtaposition), which was labeled the adverbial style in chapter 6.

The main question behind this analysis is whether learners with different language backgrounds mark simultaneity in Czech based on their source language or whether they mark it in a similar way irrespective of the marking preference they exhibited in the source language.

In order to address this question, the differences between the learner groups are explored and then compared to the native Czech group. Next, comparisons are made between learners' performances in the source and in the target language. Note that in this section, I focus on the results of the quantitative analyses. Examples and qualitative descriptions of the main patterns found in learner data are provided in sections 7.3 through 7.5. A few typical examples will be provided in order to remind the reader of the specific styles in which English, German and Czech speakers mark simultaneity in their own language (for more detail, see chapter 6). English native speakers prefer to combine aspectual devices and temporal adverbials (example (7.1)). German native speakers make mainly use of temporal adverbials only (e.g. (7.2)).

(7.1)   And he *is licking* this naked woman's belly button, and *at that moment* in comes another, an older boy   (SUB14CALVE_ENG)

(7.2)   Und leckt die Mayonnaise ab und *in diesem Moment* tritt vermutlich sein Vater ein.   (SUB21CALV_GER)
        'And he licks off the mayonnaise and at this moment probably his father comes in.'

When expressing simultaneity in German native speakers employ temporal adverbials without any additional linguistic device. Czech native speakers make use of aspectual marking either alone (as in example A), but often in combination with temporal adverbials (as in example B).

(7.3)   A: Tak on to *slízává* (Imperf-D), někdo *otevře* (Perf-S) dveře.
        'So, he is licking it off, somebody opens the door.'   (SUB33CALVE_CZ)

(7.3)   B: a začne *slízávat* (Imperf-D) kečup s hořčicí, *v té chvíli* (Tadv) se
        otevřou (Perf-S) dveře   (SUB6CALVE_CZ)
        'And he starts licking off the ketchup with the mustard, at this moment
        the door opens.'

Let us now explore the use of aspectual marking by learners and Czech native speakers. For illustration, consider the following figure:
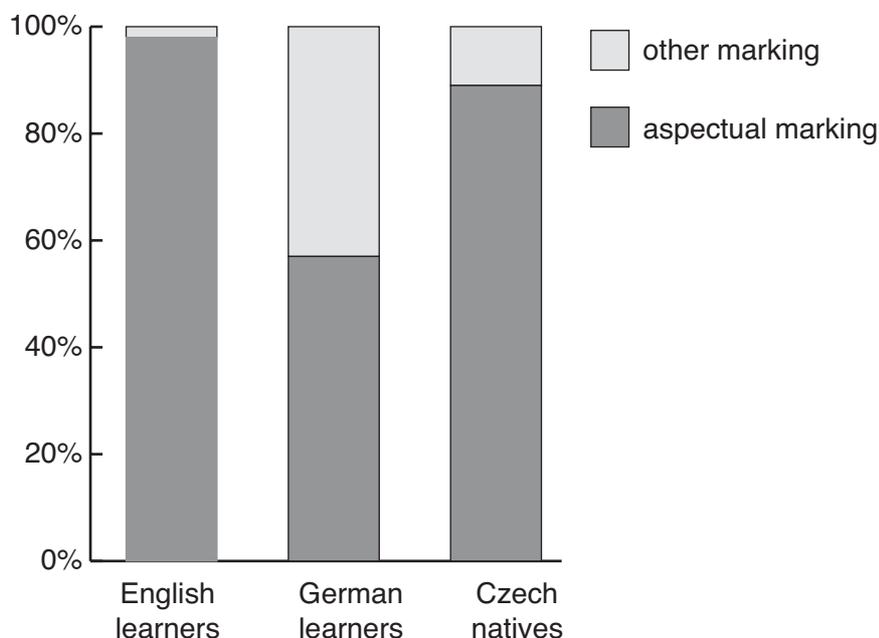

Figure 7.3   The overall use of aspectual marking by English learners, German learners and Czech native speakers

The overall use of aspectual marking (combination and isolation) by English learners is higher than that of German learners ($z = 5.07$, $p < .05$). Further, English learners employ the devices of aspectual marking more frequently than Czech native speakers ($z = 1.94$, $p < .05$). Note that although German learners use aspectual devices far less often than English learners, they do, nonetheless, make use of them in almost 60% of all cases. It needs to be mentioned, however, that this only happens at the medium and advanced levels of proficiency (see section 7.5 below).

Another important difference between English and German learners lies in their use of aspectual marking in isolation (the stronger aspectual style). English learners employ this way more frequently than German learners (z = 1.81, p < .05), and even more often than Czech native speakers (z = 3.9, p < .05).

German learners employ the weaker aspectual style more often than English learners (z = 1.89, p < .05.). However, they do not employ this way as often as the Czech native group. Czech native speakers make use of aspectual marking in combination (the weaker aspectual style) more often than both learner groups (z = 4.00 [Cz-native speakers vs. Eng-learners], z = 2.54 [Cz-native speakers vs. Ger-learners], p < .05).

In 43% (20 out of 47 occurrences) of the cases, German learners employed yet another device for simultaneity marking in Czech. This other strategy is not different from the strategy used by German native speakers: the adverbial style. German learners apply this way in Czech by combining two marked perfective verbs mainly with a temporal adverbial. This point is discussed in section 7.7.

The adverbial style is used more often by German than English learners as well as Czech native speakers (z = 4.5 [Ger-learners vs. Eng-learners], z = 3.4 [Eng-learners vs. Cz-native speakers], p < .05). In fact, in only 3% (2 occurrences) of the cases was the adverbial style found in the English learner data. Czech native speakers use this strategy 11% (8 occurrences) of the time. The results are summarized in the following figure:
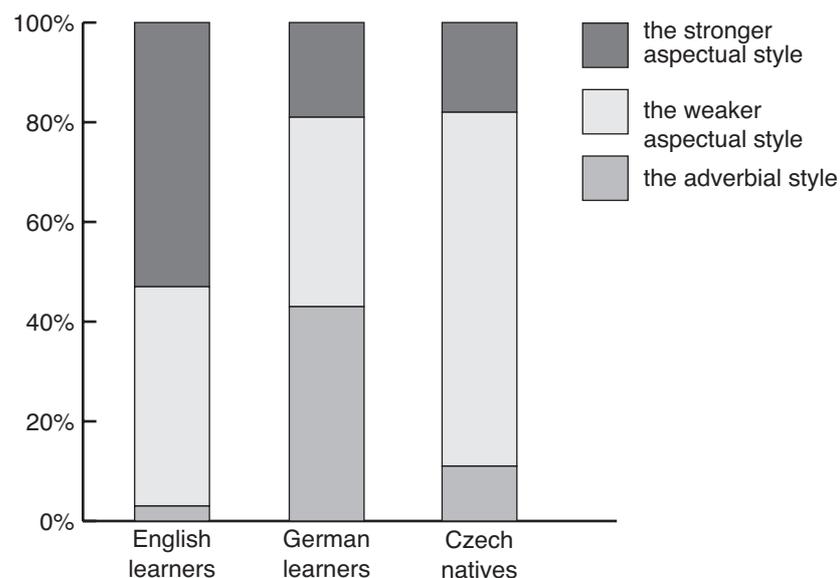

Figure 7.4   The three styles of marking simultaneity by English learners, German learners, Czech and native speakers

As can be seen in figure 7.4, English learners prefer aspectual marking (the simple aspectual and the weaker aspectual style) over the adverbial style when marking simultaneity in Czech (χ^2 (2) = 51.1, p < .05). German learners, on the other hand, employ the adverbial style as well as aspectual marking (used in combation or in isolation) equally often. In other words, the difference between the amount of use of the adverbial style and the use of aspectual marking is not significant (χ^2 (2) = 0.52, n.s.).

In sum, English learners prefer to mark simultaneity in Czech by means of the stronger aspectual style. They make use of it more often than both German learners and Czech native speakers. Also, the overall use of aspectual marking is higher in the English learner group than in the Czech native and German learner groups. German learners, by contrast, prefer to express simultaneity in Czech by using the weaker aspectual style. In this manner, they differ from the English learners but are similar to Czech native speakers. Compare the following figure:
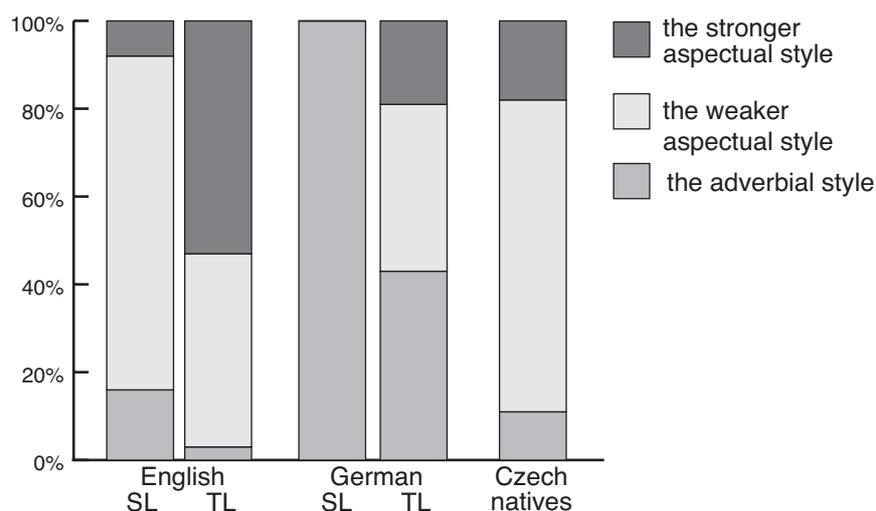

Figure 7.5   The three ways of marking simultaneity by English native speakers and learners, German native speakers and learners and Czech native speakers

Results in figure 7.5 show that learners differ crucially in the ways they express simultaneity in Czech: English learners rely mainly on the presence of aspectual means in the target language whereas German learners make use of aspectual marking as well as of the adverbial style, which is possible in Czech, however, not typically observed in the Czech data. In other words, English learners employ the weaker aspectual style, while German learners distribute the marking of simultaneity equally between two main strategies: the adverbial

style and the weaker aspectual style. Since the former strategy is more or less uniquely used by Germans, it indicates that the adverbial style is the specific strategy for simultaneity marking not only for German native speakers but also for German learners of Czech. Both learner groups differ from their performance in the source language.

German learners not only employ the adverbial style but also aspectual marking (the weaker and the stronger aspectual style) when expressing simultaneity in Czech. English learners use the stronger aspectual style more often than English native speakers (z = 4.38, p < .05). Conversely, English native speakers employ the adverbial style (z = 2.72, p < .05) and also the weaker aspectual style more frequently than English learners do (z = 2.54, p < .05).

These findings suggest that English as well as German learners make use of aspectual marking (the stronger and the weaker aspectual style) when expressing simultaneity in Czech. Additionally, English learners "overuse" the stronger aspectual way and therefore deviate in this respect from the Czech as well as from the pattern used in English. This overgeneralization results in "underuse" of the weaker aspectual style and the adverbial style, which are both normally used in the target language.

German learners differ from the German native speakers mainly because they use the simple aspectual and the weaker aspectual style for marking simultaneity in Czech, which both involve aspectual marking. Note that the adverbial style typically used by German native speakers is still very dominant in the German learners' data (cf. figure 7.5).

In conclusion, German learners progress towards the target language distribution whereas English learners seem to depart from the target language pattern. This will become more apparent when comparing English and German learners at the advanced level of proficiency (for mor detail, see this chapter, section 7.5.3 and chapter 8).

Before exploring the lexical items used by English and German learners in the weaker aspectual style to express simultaneity in Czech, I address the distribution of aspectual contrast (e.g. *Dívka odchází* (Imperf), *on se napije* (Perf)' - 'A/The girls is leaving, he takes a sip') and aspectual juxtaposition (e.g. *Dívka odchází* (Imperf), *on pije* (Imperf) - 'A/The girls is leaving, he is taking a sip) in the learners' data. This is an important point since each constellation requires a different type of aspectual marking: aspectual contrast

consists of a perfective and an imperfective verb form whereas aspectual juxtaposition is formed by two imperfective forms. In both cases, any verb type can be used either in its simplex or derived form. Since I have shown that both learner groups are in the position of using aspectual marking for the expression of simultaneity in Czech, the differences between them might be found in type of aspectual marking. The following hypothesis is examined next: A specific difference is expected between the learners from each of the two source languages – namely that having an English source language background triggers more imperfective and German more perfective forms in Czech. The emergence of these patterns is motivated by the make-up of the source language: English "derives" imperfectivity (the suffix *-ing*) whereas German "derives" perfectivity (verbal prefixes such as *auf-essen*). In this sense, German learners apply the "prefix strategy" while English learners make use of the "suffix strategy" when marking aspect in Czech.

The difference in the frequency of aspectual contrast and aspectual juxtaposition usage by English learners either in combination or in isolation is not significant (in combination: χ^2 (1) = 0.67, n.s.; in isolation (χ^2 (1) = 3.33, n.s.). In other words, English learners show a balanced use of aspectual contrast and juxtaposition in both constellations when marking simultaneity. For an overview, consider table 7.1:

English learners	Aspectual contrast	Aspectual juxtaposition
Use in isolation	66% (N=20)	33% (N=10)
Use in combination	58% (N=30)	42% (N=24)

Table 7.1   Proportion of aspectual contrast/juxtaposition used in isolation and in combination by English learners

The situation is different for German learners. Like English learners, there is no significant difference between the use of aspectual contrast and aspectual juxtaposition used in isolation χ^2 (1) = 2.7, n.s.). In combination, however, German learners use aspectual contrast more often than aspectual juxtaposition (χ^2 (1) = 10.9, p < .05). Consider table 7.2:

German learners	Aspectual contrast	Aspectual juxtaposition
Use in isolation	78% (N=7)	22% (N=2)
Use in combination	89% (N=24)	11% (N=3)

Table 7.2   Proportion of aspectual contrast/juxtaposition used in isolation and in combination by German learners

As established in chapter 6 (section 6.2.1), Czech native speakers also use aspectual contrast more often than aspectual juxtaposition. This difference is significant when used in combination and almost significant (p = .06) when used in isolation.

When comparing learners with Czech native speakers, the following picture emerges: English learners employ aspectual contrast equally often to aspectual juxtaposition in both constellations. We observed a balanced distribution between the use of aspect in combination and isolation (see table 7.1). German learners, on the other hand, show a preference for aspectual contrast only when used in combination. In isolation, the difference is nearly significant, which reflects a tendency for employing aspectual contrast.

Thus, English learners differ from Czech native speakers by exhibiting a balanced distribution of aspectual contrast and juxtaposition. German learners, on the other hand, employ aspectual contrast more often than aspectual juxtaposition in both constellations like Czech native speakers. Consider table 7.3 for the use of aspect in isolation and table 7.4 for the use of aspect in combination:

use in isolation	contrast	juxtaposition
Czech native speakers	71% (N=10)	29% (N=4)
English learners	78% (N=23)	22% (N=7)
German learners	66% (N=6)	33% (N=3)

Table 7.3   Proportion of aspectual contrast/juxtaposition used in isolation by Czech native speakers, English learners, and German learners

use in combination	contrast	juxtaposition
Czech native speakers	70% (N=48)	30% (N=20)
English learners	58% (N=31)	42% (N=23)
German learners	89% (N=24)	11% (N=3)

Table 7.4   Proportion of aspectual contrast/juxtaposition used in combination by Czech native speakers, English learners and German learners

These findings indicate that German learners use the contrast between perfective and imperfective aspect more often than the juxtaposition of two imperfectives. This means that German learners use more perfective than imperfective aspect for the overall aspect marking in both constellations. Additionally, as previously pointed out, German learners tend to use perfectively derived verbs when employing the adverbial style for marking

simultaneity in Czech (for more detail, see chapter 8). Both observations suggest that German learners use perfective aspect more often than imperfective aspect overall and hence deviate from the target language.

English learners, by contrast, make use of the aspectual contrast between a perfective and an imperfective and juxtaposition of two imperfectives equally often. This means that English learners employ imperfective aspect more often compared to Czech native speakers, who show a preference for aspectual contrast. Thus, English learners also deviate from the target language.

Let us now turn to the additional explicit temporal devices that are employed in the weaker aspectual style by English and German learners. Compare the following two tables:

	nr. of occurences	contrast	juxtaposition
(1) Temporal adverbials	16	6	10
(2) Phase verb	5	4	1
(3) When-clause	2	1	1
(4) Temp. adverbials + phase verb	2	1	1

Aspectual marking +

Table 7.5   Explicit temporal devices used by English learners in combination with aspectual marking

	nr. of occurences	contrast	juxtaposition
(1) Temporal adverbials	10	7	3
(2) Phase verb	2	2	0
(3) When-clause	1	1	0
(4) Temp. adverbials + phase verb	5	4	1
(5) Temp. adverbials + when-clause	3	3	0

Aspectual marking +

Table 7.6   Explicit temporal devices used by German learners in combination with aspectual marking

Comparing tables 7.5 and 7.6, we can see that the sets of explicit temporal devices are similar in both groups. All learners mainly make use of adverbials, phase verbs, and when-clauses. In both groups, adverbials represent the most common explicit temporal device found in combination with aspectual marking.

Moreover, all additional lexical markers are very similar to those used by Czech native speakers (for more detail, see chapter 6, section 6.2.1). The Czech group, however, applies lexical means in a larger number of multiple combinations (more than two lexical devices as in '*Začíná* (Phase) *slízávat*

(Imperf) hořčici, *v tom momentě* (Tadv) *vejde* (Perf) jeho bratr' - 'He *start licking* the mustard off *at this moment* his brother *comes in*'). Combinations of this type are rather uncommon in both learner groups (2 occurrences in the English data; 7 occurrences in the German data).

When examining the use of aspectual contrast and aspectual juxtaposition in combination with an explicit temporal device, a difference between English and German learners can be detected. English learners use more aspectual juxtaposition than German learners ($z = 3.2$, $p < .05$), and German learners employ aspectual contrast more often than English learners ($z = 2.2$, $p < .05$). When comparing these two constellations within each learner group, another picture emerges. No significant difference can be found in the English learner group (χ^2 (1) = 0.04, n.s.). In other words, English learners use aspectual contrast and juxtaposition equally often in the weaker aspectual style. German learners, on the other hand, employ aspectual contrast more frequently than aspectual juxtaposition (χ^2 (1) = 7.2, $p < .05$). These results are in line with my previous findings regarding the employment of aspectual marking in .

In summary, English and German learners do not differ from each other with respect to the type of additional explicit temporal devices used in the weaker aspectual style. Further, the learner groups are not different from the Czech native group except in one respect: Czech native speakers make more use of multiple combinations than learners do.

Four relevant points should be highlighted:

(1)   With respect to the overall use of aspectual marking for expressing simultaneity, English and German subjects' performances in the source language differs from that in the target language. Both learner groups employ aspectual marking more often than in their respective source language.

This observation suggests that: (a) aspectual marking is the basis for the expression of simultaneity in Czech; and (b) learners, irrespective of how aspect is grammaticalized in the source language, are sensitive to this basis.

(2)   English and German learners differ with respect to the way they employ aspectual marking when expressing simultaneity in Czech. English learners rely on the means of the stronger aspectual style, which they use more frequently than German learners and Czech native speakers. German learners employ the stronger aspectual style as well as the

weaker aspectual style, but the adverbial style is still widely used for marking simultaneity in Czech.

These findings show that the learner groups differ essentially from each other. English learners' simultaneity expression in Czech depends on the presence of aspectual marking while German learners rely on adverbials. This holds true despite the fact that German learners are in general to be more advanced than English learners (cf. chapter 4, section 4.3.2 on determing the level of proficiency).

(3)   English and German learners do not differ with respect to the type of explicit temporal devices they employ in the weaker aspectual style. They mainly employ adverbials. Both learner groups use far less multiple combinations than Czech native speakers.

This observation confirms the general trend that learners have fewer lexical devices available to them than native speakers. Also, as pointed out in chapter 6 (section 6.2.2), native speakers of Czech are inclined to use multiple combinations more often than native speakers of other languages.

(4)   In comparison to Czech native speakers, German learners use more aspectual contrast than juxtaposition overall and therefore employ a greater number of perfective verbs. The opposite holds true for English learners. They employ more aspectual juxtapostion than Czech native speakers and hence a higher number of imperfective verbs.

These results indicate that English and German learners follow different strategies when acquiring the Czech aspectual system essential for marking simultaneity in Czech. This point is explored further in section 7.5.

Now, I will examine to what degree the differences between learners established in this section are valid for each level of proficiency.

7.3 Level of proficiency: English learners

In order to be able to make any further claims about the acquisition paths of each learner group, it is crucial to investigate the trends for simultaneity marking outlined in sections 7.1 and 7.2 at every level of proficiency. In this manner, more light can be shed on the similarities and differences found among learners and native speakers so far.

As outlined in chapter 4 (section 4.3), learners were divided into three different groups on the basis of their proficiency in Czech. The large differences in the sample size of the German and the English learner group were always concidered in the statistical analysis. Compare table 7.7:

(total N=40)	English learners	German learners	All learners
Beginner group	10	3	13
Intermediate group	7	9	16
Advanced group	3	8	11

Table 7.7   Number of learners at each level of proficiency

I first explore the differences between English learners at different proficiency levels. Further, I also compare their performance to that of the Czech native group and attempt to provide an explanation for any possible deviation.

7.3.1 Explicit atemporal means

Recall from section 7.1 that English and German learners employ atemporal means in Czech equally often and also more frequently than the Czech native speakers. Note that English speakers, contrary to German speakers, use these means as often in the source language as in the target language. In this sense, German and English learners differ. Nevertheless, both learner groups use these devices extensively in the target language and employ atemporal devices as a kind of "fallback strategy" when marking simultaneity in Czech. Recall that atemporal devices used by learners are mainly represented by spatial expressions. In other words, learners use spatial information in order to encode temporal information (as illustrated in example (2.4), chapter 2). This "space for time" strategy was found cross-linguistically by other researchers (Haspelmath, 1997).

Within the English learner group, a clear trend for the distribution of explicit temporal and explicit atemporal means can be observed. This trend is: the more basic a learner is, the more likely it is for atemporal means to be employed and

the more advanced a learner is, the more likely it is for temporal means to be used. Consider table 7.8:

	Explicit atemporal devices	Explicit temporal devices
Basic	1.5 occurrence	1.6 occurrence
Medium	0.4 occurrence	3.7 occurrences
Advanced	0 occurrence	4.7 occurrences

total number of atemporal devices = 17; total number of temporal devices = 55

Table 7.8   The frequency of explicit temporal and atemporal devices as used at different proficiency levels by English learners[2]

The beginner group produced 82% (14 occurrences) of all explicit atemporal devices used by the entire group of English learners. 18% (3 occurrences) of the instances were found in the intermediate and none in the advanced group[3]. The 3 occurrences were produced by two different intermediate learners. One learner employed atemporal devices in 2 out of 5 testing items. Furthermore, within the basic learner group, about half of the learners (55%, 6 learners) employed atemporal devices. On average, each of these learners used an atemporal device in 2 of the 5 possible testing items. For illustration, consider the following two examples; (7.4) was produced by an English learner of Czech at the basic level of proficiency, (7.5) comes from an English intermediate learner:

(7.4)   Osoba není postel, je *tam* (Space) gauč,   (SUB59FORM_ENG_CZ)
          a formule jedna pracovník je *tam* (Space) s vrtač,
          a *ten* (Discourse) gauč je téměř auto.

          'A person is not a bed, *there* is a sofa,
          and formula one worker is *there* with a drill
          and *this* sofa is almost a car'

---

[2] Since the number of subjects at every proficiency level varies (basic proficiency level: 9, medium proficiency level: 7, advanced proficiency level: 3), the average frequency of atemporal means was calculated for all learners in each group.

[3] This does not imply that English advanced learners do not make use of atemporal means in their narrations at all. This observation holds true only for the relevant scene(s) analyzed for the purpose of this study where no occurrences of these devices were found. In addition, the sample size is very small here (only three subjects).

The reference to the same space (the spatial deixis *tam* 'there') and the anaphorically used demonstrative *ten* 'this' make it possible to interpret example (7.4) simultaneously.

In example (7.5), the learner employs spatial deixis *tam* 'there' in combination with particles *taky* 'too/also'.

(7.5)   a tak *tam* (Space) je jeden obraz,   (SUB31FIRE_ENG_CZ)
koukám na jeden obraz,
a *tam* (Space) je možná požární vůz,
tam (Space) jsou formy požární služby *taky* (Particle)
a *tam* (Space) *taky* (Particle) je telefon, bílý telefon, na steně,
a my myslíme, že je to *stejný* (Space) pokoj

'and so *there* is one picture,
I am looking at one picture
and *there* is maybe a fire engine
there are forms of the fire watch *too*,
and *also* there is a phone, a white phone, on the wall,
and we think that it is the *same* room'

Like the example (7.4), the use of these atemporal devices in example (7.5) is target language adequate. The interpretation is unambiguously simultaneous according to several Czech informants.

In summary, English learners use explicit atemporal devices only rarely for the expression of simultaneity in Czech. That is, English learners' use of explicit atemporal devices is limited. Atemporal devices can be found mostly at the basic level of proficiency and only occasionally at the medium level of proficiency. For this reason, I can conclude that they are used as an alternative way to express simultaneity by those English learners who are not yet capable of employing explicit temporal devices. In this manner, English learners use the explicit atemporal means as a "fallback strategy" when expressing simultaneity in Czech. Note that the absence of explicit atemporal means at the advanced proficiency level is not surprising since the employment of these means in the target language is rather uncommon (cf. chapter 6, section 6.1). Finally, the use and the type of explicit atemporal devices employed by English beginners and intermediate learners is (a) similar for both groups and (b) target language adequate.

7.3.2 Explicit temporal means

Based on the results of Czech native speakers, a possible prediction for learners in the domain of explicit temporal simultaneity is that they would employ aspectual marking for the expression of simultaneity first. However, previous research (Hendriks 1999, Starren 2001) has shown that learners initially use adverbials in order to encode aspectual and temporal information in the target language. In line with these findings, the use of the adverbial style should be essential for beginners when marking simultaneity in Czech. The gist of the adverbial style is the presence of a temporal adverbial that expresses simultaneity regardless of (a) the aspectual meaning/marking on the verb, (b) the tense marking of the verb, (c) the verb type employed. In what follows, I look into the expression of simultaneity by English beginners, intermediate and advanced learners.

The acquisition of the expression of simultaneity in Czech by English learners is marked by two trends: a decrease in the use of the stronger aspectual style and an increase in the use of the weaker aspectual style. Consider the following figure:
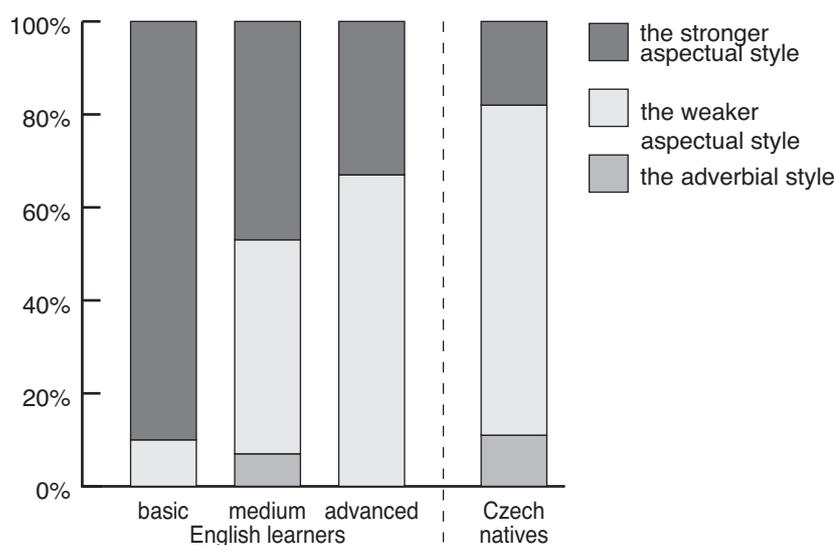

Figure 7.6   The acquisition of the expression of simultaneity by English learners at different levels of proficiency

As can be seen in figure 7.6, the predominant strategy for English beginners (total number of 10 subjects) is to employ the stronger aspectual style 80% (12 occurrences) of the time when marking simultaneity in Czech. Every English beginner makes use of this strategy when expressing simultaneity in at least one out of five testing items. In the remaining 20% (3 occurrences) of all instances, the weaker aspectual style was applied. This strategy was only

followed by two beginners. One of them used the weaker aspectual style in the retellings of two stimuli. The only explicit temporal device used in the weaker aspectual style by the English beginners was an adverbial. This is shown in the next example:'

(7.6)   A tak má rád hořčici,   (SUB30POST_ENG_CZ)
        a tak *používá* (Imperf) jazyk,
        a *jíst* (Imperf) hořčice,
        a *během* (TAdv) toho jeho bratr *přichází* (Imper) do pokoje
        a *otevírá* (Imper) dveře

        'And so he likes mustard
        and so he *is using* his tongue
        and *eat* the mustard
        and *during* this his brother is coming into the room
        or *is opening* the door'

In example (7.6), the adverbial *během* 'during' is combined with the aspectual juxtaposition of two simplex imperfective verbs - *jíst* 'to be eating' and *přicházet* 'to be coming in'. Also note the presence of two other *imperfective* verb forms marked for imperfectivity: *použí-va-t* 'to be using' and *ote-ví-rat* 'to be opening'.

In conclusion, English beginners employ aspectual marking in isolation as well as in combination for the expression of simultaneity in Czech. They employ the stronger aspectual style more often than the weaker aspectual style (χ^2 (1) = 5.4, p < .05). The following set of examples illustrates the stronger aspectual style as used by English beginners:

(7.7)   Tak reklama je jako formula jedna,   (SUB22FORM_*ENG_CZ*)
        a tam je muž,
        sedí (Imperf) na gauč,
        a *přijdou* (Perf)někoterý formule jedna muž

        'So commercial is like formula one,
        and there is a man
        who *is sitting* on a sofa
        and some formula one man *come in*'

The simultaneous interpretation in example (7.7) is based on an aspectual contrast between a simplex imperfective verb (*sedět* 'to sit') and a prefixed perfective verb (*při-jít* 'to come in'). In the next example, the juxtapostion of two imperfective verbs is shown:

(7.8) Scéna je španělský hudba,   (SUB59POINT_ENG_CZ)
       a osob *rozsvěcívá* (Imperf) lampy,
       každý patro víc světlo,
       žena dole *uklízí* (Imperf)

       'The scene is Spanish music,
       and a person *is switching on* lamps,
       every floor more light,
       a woman downstairs *is cleaning up*.'

Example (7.8) demonstrates the use of aspectual juxtaposition. The two situations depicted in this example overlap. The second verb form is a simplex imperfective (*uklízet* 'to be cleaning up') whereas the first verb is marked for imperfectivity by the suffix *-va*: rozsvěcí-*va*-t. Although this form is not target language appropriate (∗rozsvě-*cí*-va-t should be rozsvě-*co*-va-t) the suffix *-va* clearly signals imperfectivity. This case shows that English learners at the basic level of proficiency know that the suffix *-va* has an imperfectivizing function in Czech.

Before we move on to the medium proficiency level, I shall briefly discuss the distribution of aspectual contrast and aspectual juxtaposition used by English beginners in all testing stimuli. Consider the following table:

English beginners	in isolation	in combination
contrast	4 occurrences (33%)	1 occurrence (33%)
juxtaposition	8 occurrences (67%)	2 occurrences (67%)
total number	12 occurrences (100%)	3 occurrences (100%)

Table 7.9   The use of aspect in isolation/combination by English beginners

Overall, English beginners favor using aspectual juxtaposition over aspectual contrast. In other words, English learners at the basic proficiency level use more simplex or derived imperfective than simplex and derived perfective verbs. It is important to highlight two points:

(1)   English beginners show an increased use of imperfective verbs. Thus, they differ from the target language, but also from their performance in the source language (Czech as well as English native speakers tend to employ aspectual contrast more often than aspectual juxtaposition, (see chapter 6, section 6.2.1 and 6.2.2).

(2)   English beginners show a strong preference for the stronger aspectual style, which means that they rely on the employment of aspectual contrast or juxtaposition when expressing simultaneity in Czech. This

implies that English beginners must be able to understand how to differentiate between a Czech perfective and imperfective aspect and at least in some cases, also how to perfectivize or imperfectivize a verb. The nature of such underlying knowledge is discussed in chapter 8.

In the next section, I investigate learners' performance at the medium and advanced level of proficiency. They will be compared with each other and also with learners' performance at the basic proficiency level. Note that there are seven intermediate and three advanced learners of Czech.

There are several differences between the three English learner groups: (1) the frequency with which the stronger aspectual style is employed declines, (2) the weaker aspectual style is used more frequently by the intermediate and advanced learners, and consequently (3) the diversity of devices used in the weaker aspectual style by more advanced learners is greater than by less advanced learners (e.g. beginners only employ adverbials whereas intermediate learners make use of four different lexical devices for the same purpose). The last difference, is that (4) English intermediate learners employ the adverbial style whereas the other English learner groups do not make use of this way at all.

As far as (1) is concerned, the intermediate learners make use of the stronger aspectual style like the beginners in 47% (12 occurrences) of the cases, but unlike beginners, they use the weaker aspectual style as often as the stronger aspectual style in 46% (19 occurrences) of the cases. In other words, English intermediate learners employ the weaker aspectual style more often than beginners (z = 1.9, p < .05). English beginners' use of the stronger aspectual style, in contrast, is higher than that of the intermediate group (z = 2.1, p < .05). With respect to (4), the adverbial style appears in the data of the intermediate group in 7% (2 occurrences) of the cases.

With respect to (2) and (3): the favored devices used by the intermediate English learners in the weaker aspectual style are phase verbs, which are employed in 39% (5 occurrences) of the cases followed by various temporal adverbials at 46% (4 occurrences), and when-clauses at 15% (2 occurrences). Multiple combinations (more than one additional lexical item in combination with aspectual devices) do not occur in the data from the English intermediate group. Consider figure 7.7:
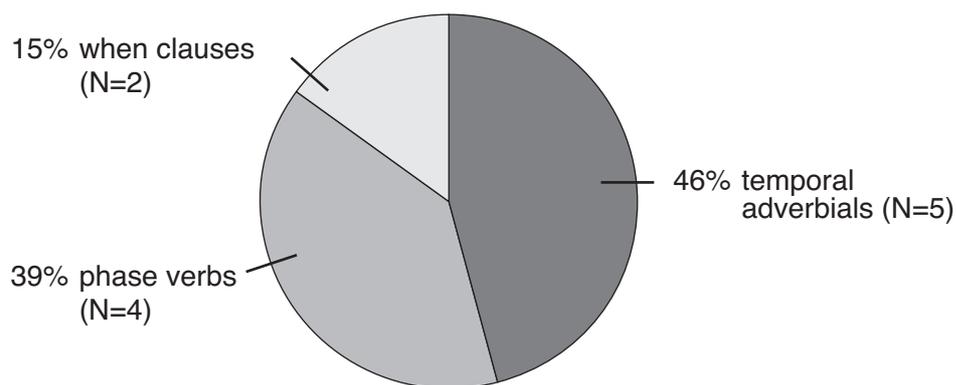
Figure 7.7   The use of explicit temporal devices in the weaker aspectual style
             by English intermediate learners

Although only three learners represent the English advanced group, they follow
the same trend as English learners at other proficiency levels. They employ
aspectual marking most of the time. In contrast to the intermediate group and
the beginner group, advanced learners of Czech use the stronger aspectual style
only 33% (5 occurrences) of the time. They also employ the weaker aspectual
style in 67% (10 occurrences) of the cases, but not significantly more often
than the intermediate learners ($z = 1.03$, n.s.). The explicit temporal devices
used in the weaker aspectual style are the same as in the intermediate group,
but the advanced group employs slightly more adverbials than phase verbs:
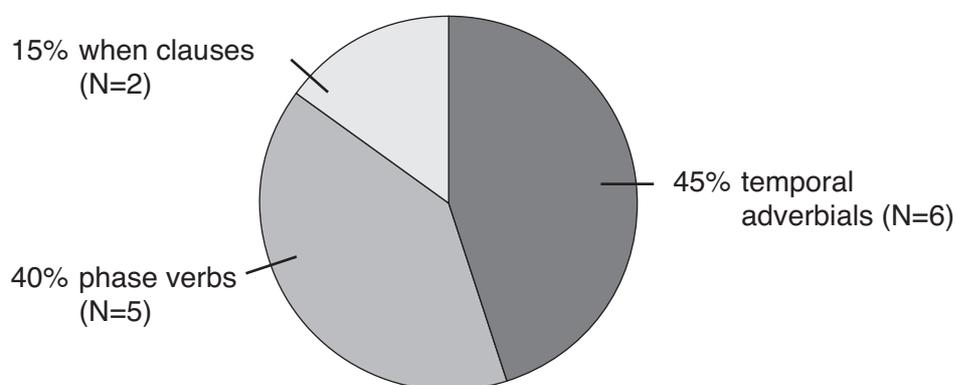
Figure 7.8   The use of explicit temporal devices in the weaker aspectual style
             English advanced learners

The advanced group and the intermediate group differ in two respects. First,
advanced learners also employ multiple combinations (38% [5 occurrences] of
cases where the weaker aspectual style is applied). Second, three occurrences
of the adverbial style were found in the data from the intermediate English
group but none in the data from the advanced English group.

As far as the use of aspectual marking in isolation or combination is concerned, the intermediate and the advanced group do not differ. Additionally, both groups show the same tendency as the beginner groups by employing aspectual juxtaposition in general more often than aspectual contrast. Compare the following tables:

English intermediate	in isolation	in combination
contrast	4 occurrences (31%)	5 occurrences (46%)
juxtaposition	9 occurrences (69%)	7 occurrences (54%)
total number	13 occurrences (100%)	13 occurrences (100%)

Table 7.10 The use of aspect in isolation/combination by English intermediate learners

English advanced	in isolation	in combination
contrast	2 occurrences (40%)	4 occurrences (44%)
juxtaposition	3 occurrences (60%)	5 occurrences (56%)
total number	5 occurrences (100%)	9 occurrences (100%)

Table 7.11 The use of aspect in isolation/combination by English advanced learners

It follows from tables 7.10 and 7.11 that English intermediate and advanced learners favor aspectual juxtaposition over aspectual contrast overall. As pointed out earlier, English beginners show the same pattern. The differences in the use of juxtaposition in combination and isolation by individual groups are not significant (combination: $z = 0.47$ [advanced vs. intermediate]; $z = 0.26$ [intermediate vs. basic]; $z = 0.56$ [basic vs. advanced]; isolation: $z = 0.24$ [advanced vs. intermediate]; $z = 0.34$ [intermediate vs. basic]; $z = 0.28$ [basic vs. advanced], n.s.).

Note that English learners at all proficiency levels deviate from the pattern found in the Czech native data as well as from the preference they exhibit in their source language. Consider figure 7.9:
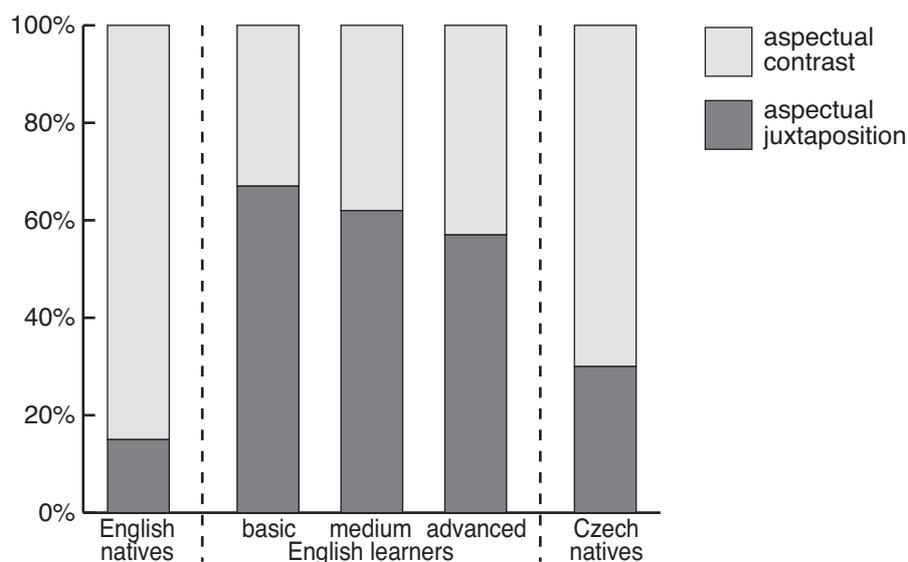
Figure 7.9   The overall use of the aspectual contrast and juxtaposition by English native speakers, English learners at all proficiency levels and Czech native speakers

7.3.3 Summary

The general developmental trend for the expression of simultaneity in Czech followed by the English learners is from the stronger aspectual style towards the weaker aspectual style. In other words, English learners first employ the most basic building block available in the target language based on the usage pattern found in Czech native speakers (cf. chapter 6, section 6.2.1). Then, at the medium level of proficiency, more sophisticated combinatorial strategies and the adverbial style are employed. Finally, English advanced learners also make use of multiple combinations but no longer make use of the adverbial style. Contrary to previous studies (e.g. Hendriks, 1999) these results show that English beginners do not employ the adverbial style as an initial "fallback strategy" for marking simultaneity in Czech. Also, English learners' extensive use (and an actual "overuse" at the advanced proficiency level) of aspectual marking mirrors that aspect plays a major role for the expression of simultaneity in the target language.

Aspectual marking present in simultaneous contexts is used by English learners of Czech 98% of the time throughout all three proficiency levels. Thus, it would be reasonable to claim that the use of aspectual marking is thought essential for marking simultaneity by English learners of Czech. Also, across all testing items, English learners show a very strong tendency to use the aspectual juxtaposition of two imperfectives rather than the aspectual contrast

of a perfective and an imperfective verb. In this manner, they do not only deviate from Czech native speakers but also from English native speakers. As shown in chapter 6, English as well as Czech native speakers favor aspectual contrast over aspectual juxtapostion in their retellings. This suggests that English learners show a special kind of attentiveness towards the Czech imperfective verb form. This holds true for all levels of proficiency.

Even at the onset of their acquisition, English learners do not use substantially different devices from the range of possibilities defined in Czech grammars. However, especially beginners deviate from Czech native speakers by employing far more aspectual markers without combining them with lexical items. Despite the fact that this complies with Czech grammar rules and that the expressed reading is simultaneous, this strategy is specific for learners as Czech native speakers rarely use this option. This is also supported by the finding that at a higher level of proficiency, the stronger aspectual style is used less frequently.

An increasing complexity can be observed at the medium and advanced proficiency level. English learners at the medium and advanced level of proficiency employ the weaker aspectual style more frequently and use other explicit temporal means in combination with aspectual marking. This claim is endorsed by the ability of some advanced English learners to mark simultaneity in the preferred target language way, combining multiple lexical devices with aspectual marking.

7.4 Level of proficiency: German learners

Parallel to section 7.3, this section focuses on the explicit temporal and atemporal devices German learners at each proficiency level employ for the expression of simultaneity in Czech. I compare their performance to that of the Czech and German native groups. In order to give a clearer account of the differences between learner groups, we make some comparisons to the English learner group already in this section. However, a more extensive comparison between English and German learners at each level of proficiency follows in section 7.5.

As shown in table 7.12 , there are only a few German beginners. A similar situation was encountered with respect to the English advanced group.

	English learners	German learners	All learners
Beginner group	10	3	13
Intermediate group	7	9	16
Advanced group	3	8	11

Table 7.12   Number of learners at each level of proficiency

In both cases we are dealing with a very small sample size. Consequently, the findings related to these groups were interpreted cautiously. This principle was followed especially when dealing with tendencies only based on a few data points. Nevertheless, sometimes all advanced German beginners or English learners exhibited the same linguistic behavior. In such cases, I may tentatively presume an underlying pattern representative for the corresponding learner group.

7.4.1 Explicit atemporal means

With respect to the use of atemporal means, the picture of German learners looks quite different from that of English learners (cf. section 7.3.1). Basic learners do not employ explicit atemporal devices at all. Moreover, the number of these means increases along with level of proficiency. This trend is opposite to the trend we observed in English learners. This observation makes apparent that the use of atemporal devices can not be interpreted as a "fall-back" strategy employed by beginners when dealing with the expression of simultaneity in the target language.

With regard to the use of explicit temporal means, in contrast, the trend is similar for German and English learners: a higher level of proficiency leads to an increase in the use of explicit means. Consider the following table:

	Atemporal devices	Temporal devices
Beginner group	0 occurrence	1 occurrence
Intermediate group	0.8 occurrence	2.2 occurrences
Advanced group	1.13 occurrence	3 occurrences

total number of atemporal devices = 17; total number of temporal devices = 47

Table 7.13   The frequency of explicit temporal and atemporal devices as used at different proficiency levels by German learners[4]

---

[4] Since the number of subjects at each proficiency level varies (basic level of proficiency: 3, medium level of proficiency: 9, advanced level of proficiency, 8), the average frequency of atemporal means was calculated for all learners in each group.

At the medium level, 89% (8 out of 9 subjects) of all German learners used explicit atemporal devices in at least one of the five testing items. At the advanced level of proficiency, 75% (6 out of 8 subjects) of all German learners employed these devices. The differences between the intermediate and the advanced group are not significant (z = 0.78, n.s.). Recall, however, that German advanced learners use explicit atemporal means whereas the English advanced learners do not. The opposite holds true for the beginner groups: English beginners make extensive use of atemporal devices whereas German beginners do not.

Similar to what can be seen in English learners, German intermediate as well as advanced learners use atemporal marking in a target language like manner. Compare the following two examples. The first example was produced by an intermediate German learner:

(7.9)   No, v nějaký místnosti (Space)   (SUB26FIRE_GER_CZ)
        je hasiční auto,
        a všechny tam, ti hasiči tam asi spěj,
        a *potom taky* (Particle) *tam* (Space/Discourse) hoří,
        v tý samý místnosti.

        'Well, in some room,
        there is a fire engine
        and everybody there, the firemen there are probably sleeping,
        and *then there* is *also* a fire burning
        in the same room.'

The simultaneous reading of (7.9) results from a "joint effort" of spatial expressions and anaphoric reference. Note that the temporal adverbial *potom* 'then' is used in the last clause to signal *sequentiality*. To make the simultaneous reading of (7.9) possible, the noun phrase *v tý samý místnosti* 'in the same room' was added at the end of the clause. This NP refers anaphorically to the same spatial frame introduced at the beginning of the retelling.

The next example was found in the data from the advanced German group:

(7.10) To je krátký spot,   (SUB62FIRE_GER_CZ)
        a v tom spotu tolik se neděje,
        je vidět dva filmy *vedle sebe*,
        a *v levé straně* je vidět hasičí, hasicí auto,
        a je slyšet nějaký zvuky jako přes funk,
        a *na pravé straně* je vidět telefon.

'This is a short ad,
and there is not much happening in this ad,
one sees two films *next to each other*,
and *on the left side* one sees a fire engine,
and one hears some noises, as if over a radio,
and *on the right side* one sees a phone.'

The simultaneous reading of this examples is based on a spatio-temporal frame set up at the onset of the retelling. In what follows, events are interpreted as being simultaneous until the frame has been changed. Note that both examples are target language adequate. Also, both examples are constructed in a very similar way to examples illustrating the use of atemporal means by English learners of Czech (cf. examples (7.4) and (7.5)).

Yet Czech native speakers employ atemporal markers differently from German or English learners: native speakers use them mostly in combination with aspectual marking (aspectual juxtaposition or opposition); learners, on the other hand, employ atemporal devices without any other lexical or morphological devices. In other words, learners rely completely on the interpretative force of atemporal devices used alone, while Czech native speakers prefer to combine them with aspectual marking (cf. chapter 6, section 6.2.1).

This observation indicates that the usage of atemporal means by learners differs from that of Czech native speakers. This brings us to the medium level of proficiency where both learner groups make use of these means more frequently than Czech native speakers ($z = 1.89$ [Eng-intermediate learners vs. Cz-native speakers]; $z = 1.95$ [Ger-intermediate learners vs. Cz-native speakers], $p < .05$). The difference between English and German intermediate learners is not significant ($z = 0.54$, n.s.). As far as the type of explicit atemporal devices is concerned, native speakers as well as learners at both levels of proficiency behave similarly: they all use verbs of perception, spatial expressions and pronominalization. Czech native speakers show some preference for perception verbs while speakers at the medium level of proficiency in both learner groups use higher numbers of spatial expressions. None of these differences are significant.

These findings show that both intermediate learner groups differ quantitatively as well as qualitatively from the Czech native group: they use explicit atemporal devices more often than Czech native speakers and they use these

devices mostly without employing aspectual contrast/juxtaposition. Recall that in the Czech data, atemporal means mainly co-occur with aspectual marking.

It is suggested by these results that the use of atemporal means represents a shared strategy for the marking of simultaneity employed by both the intermediate German and English learner group. This interpretation is supported by the fact that English beginners employ atemporal means in the same manner. In the domain of atemporal means, English learners' development stretches from a larger number of occurrences to zero number of occurrences. The German learner group shows the exact opposite: from zero to an increased number of atemporal devices. What is of importance here is that a point of convergence in the use of atemporal means can be detected at the medium level of proficiency in both learner groups. This holds true despite the fact that the starting and the endpoint for the employment of the atemporal means differ crucially. These findings are summarized in figure 7.10. The y-axis depicts the average use of atemporal devices as used by English and German learners in the relevant scene:
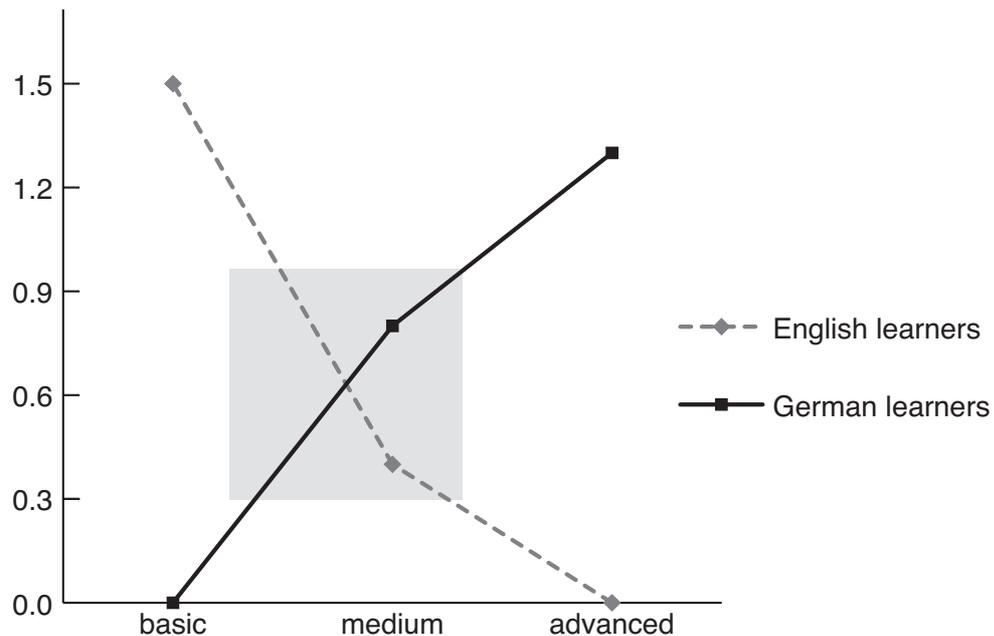

Figure 7.10   The use of atemporal devices by English and German learners at all proficiency levels

The explanation for this could be a different underlying developmental pattern, which was also noticed in other domains (e.g. the use of aspectual and adverbial marking). At the beginning, English learners' production is more like that of the Czech group: they employ aspectual marking that are typically found in the target language. German beginners, in contrast, deviate from the target language by using only temporal adverbials for the expression of

simultaneity in Czech. This way, German beginners need not employ atemporal devices at all because temporal adverbials operate unambiguously when employed for the expression of simultaneity in the target as well as in the source language. English beginners, although fully conforming to the target language trend, diverge more from the source language than the German group because they frequently use aspectual devices in isolation. In this sense, the use of atemporal means is interpreted as a supporting strategy applied by English beginners when dealing with the seeming similarity between the source and the target language.

At the intermediate level of proficiency, both learner groups employ atemporal devices in a comparable way (for more detail, see section 7.1 in this chapter).

At the advanced proficiency level, German learners show a productive use of all three options available in the target language. English learners, on the other hand, employ only aspectual devices and hence do not utilize the entire range of linguistic markers offered by the target language for simultaneity marking. In line with the dissimilarity in the final alignment to the target language system, I assume that the differences in the use of atemporal means are due to a general variation commonly observed in advanced learners. In other words, after they have mastered the target language system, advanced learners take the liberty to deviate from it.

In what follows, I will explore the use of explicit temporal devices by German speakers at all proficiency levels and examine whether or not this developmental trend holds true for this domain as well.

7.4.2 Explicit temporal means

As observed in the English learner data, German learners' use of explicit temporal means increases with level of proficiency: the higher the level of proficiency, the more frequent the use of explicit temporal . However, the distribution across the three proficiency levels looks different from English learners. Consider the following figure:
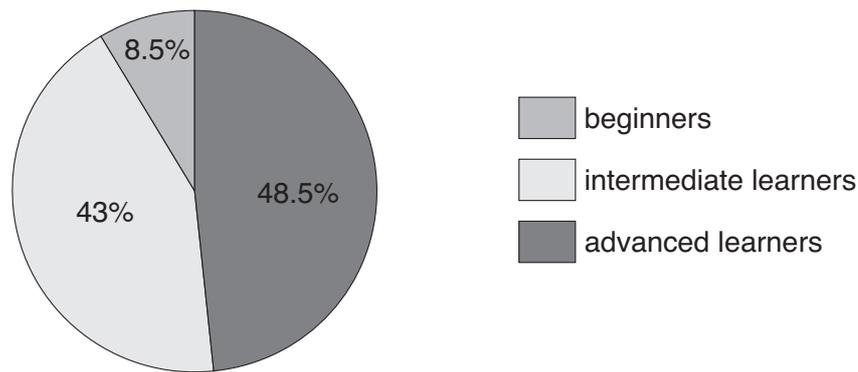
Figure 7.11   The use of temporal by German learners at different proficiency
levels (basic: N=4; medium: N=20; advanced: N=23)

As can be seen in figure 7.11, only 8.5% (4 occurrences) of all explicit
temporal devices used by the German native group could be found in the
beginner group. In comparison, 27% of all explicit temporal devices used by
the English learner group was found in the beginners' data. This variance could
be due to (a) the small size of the German beginner group; (b) the fact that not
all German beginners mark simultaneity in their retellings.

Two out of the total three German beginners mark simultaneity using
adverbials in order to express simultaneity in Czech. One of these beginners
expresses simultaneity in two out of the five stimuli. Another beginner
expresses simultaneity in only one testing item. In other words, the few
German learners at the basic level of proficiency rarely express temporal
simultaneity and then mainly by means of adverbials. Note that there are no
instances of atemporal marking in the beginner group. At the basic level of
proficiency, the three occurrences of explicitly marked simultaneity are the
only instances of marking simultaneity at all. Consider the following example
produced by a German beginner:

(7.11) Ten, *v ten moment* (AdvP) otec tam
        ten ten kluk, on jí sendvič   (SUB17CALV_GER_CZ)

        'This, *at this moment* the father there
        and this this boy, he is eating a sandwich.'

In (7.11), the first clause is without any verb; however, it contains the temporal
adverbial *v ten moment* 'at this moment'. This explicit temporal device secures
the simultaneous reading of this example. This reading is valid irrespective of
the content, the aspectual verb form, and the verb type used in the second
clause.

199

German beginners exclusively use the adverbial style for expressing simultaneity in Czech. Since this way is the main strategy for German native speakers to convey simultaneity in their source language, it is only plausible to assume that German subjects at the basic proficiency level rely on the same strategy they are already familiar with from their source language:
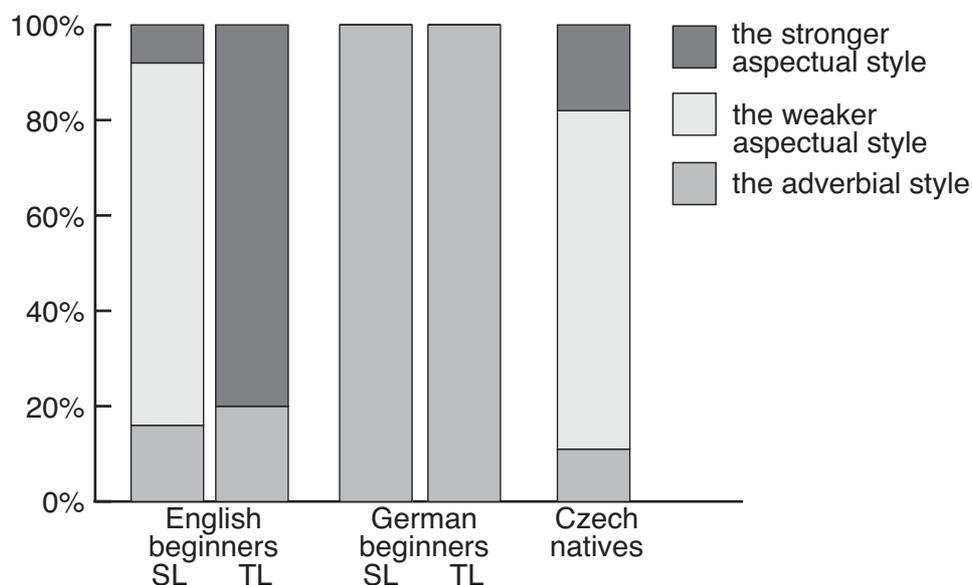

Figure 7.12   The use of the three different ways for expressing simultaneity in Czech by all native groups[5] and learners at the *basic* proficiency level

At the medium level of proficiency, German learners employed explicit temporal means in 71% (20 occurrences) of the cases. That is, a strong increase in the use of explicit temporal means could be observed at this level of proficiency. 89% (eight out of the total number of nine speakers) of all intermediate learners used explicit temporal marking for expressions of simultaneity. Every one of those learners expressed simultaneity explicitly in at least two out of the five testing items. In fact, one intermediate learner marked simultaneity in all five items and another intermediate learner performed the same operation in four out of five testing items.

The intermediate learner group used various devices for explicit marking of simultaneity. Similar to German beginners, the use of the adverbial style is dominant - 65% (13 occurrences) of the instances. Compare the following

---

[5] For both source languages, the performances of all native speakers are reported.

example. Note that all verbs are simplex (Perf-S) or derived (Perf-D) perfective forms:

(7.12) Takže vešel (Perf-D) do prostoru
a s jazykem to, zkusil (Perf-S) to udělat pryč,
a *v tomto momentu* (TAdv) ten spíš ten,
ten starší bratr přišel (Perf-D)   (SUB23POST_GER_CZ)

'So he went into the area
and with the tongue, he tried to make it go away,
and *at this moment* probably the, the older brother came in'

The difference between German beginners and intermediate learners with respect to their use of the adverbial style (beginners: 9 occurrences; intermediate: 12 occurrences) is not significant ($z = 0.56$, n.s.). Apart from this way, German intermediate learners also employ the stronger aspectual style in 25% (5 occurrences) of the cases and equally often the weaker aspectual style - 25% (5 occurrences). Consider the following figure:

Despite the fact that Germans employ aspectual marking at this proficiency level, the use is not as extensive as that of English intermediate learners. They used both of the ways where aspectual marking is involved more often than German intermediate learners ($z = 1.72$ [for]; $z = 1.72$ [for the weaker aspectual style], $p < .05$). However, a crucial developmental step among German learners at the basic and at the medium level of proficiency can be observed.
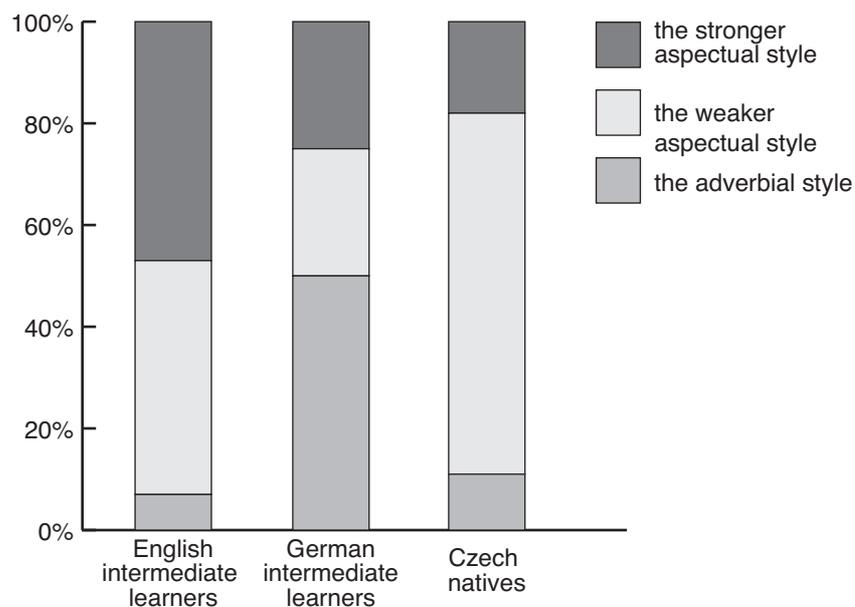

Figure 7.13 German and English intermediate learners vs. Czech native speakers

Figure 7.13 shows that both learner groups deviate from the target language in that German intermediate learners employ the adverbial style more often than Czech native speakers (z = 4.02, p < .05), whereas English intermediate learners use the stronger aspectual style more frequently than the Czech native group (z = 3.15, p < .05). As far as the use of the weaker aspectual style is concerned, the Czech native group employs this strategy more often than any other intermediate learner group (z = 5.33 [Cz-native speakers vs. German intermediate learners]; z = 4.82 [Cz-native speakers vs. English intermediate learners], p < .05).

When German intermediate learners employ the weaker aspectual style, they combine aspectual marking mainly with adverbials (4 occurrences). In one instance, they also use a when-clause. Consider the following example:

(7.13) a tam *prošel* (Past, Perf-D) muž,   (SUB24FIRE_GER_CZ)
        který něco vzal z auta,
        a *ve stejné době* (TAdv) hořelo (Past, Imperf-S) v garáži hasiči

        'And suddenly a man *walked by*
        who took something out of the car
        and, *at the same time* a fire *was burning* in the garage of the firemen'

Simultaneity in example (7.13) is expressed by the aspectual *contrast* between a derived perfective and a simplex imperfective verb in combination with the temporal adverbial *ve stejné době* 'at the same time'.

This brings us to the use of aspect by German intermediate learners. Recall that English learners have a preference for employing aspectual juxtapostion at all proficiency levels and therefore more imperfective than perfective verbs. German intermediate learners' use of aspectual marking in isolation and combination is summarized in table 7.14:

German intermediate learners	aspectual contrast	aspectual juxtapostion
in isolation	4	1
in combination	5	0

Table 7.14   The use of aspectual contrast/juxtaposition in combination and isolation by German intermediate learners

It is clear from table 7.14 that German intermediate learners prefer aspectual contrast over aspectual juxtaposition. In this respect they differ from English learners at the medium proficiency level and resemble the Czech native group.

The two latter groups also have a preference for employing aspectual contrast over juxtaposition. The use of aspect is discussed further in chapter 8.

In summary, a difference between the beginner and intermediate German learners of Czech can be observed. Despite the fact that learners at the medium proficiency level still use the typical German adverbial way two-thirds of the time, they also employ aspectual markers for expressing temporal simultaneity.

At an advanced level of proficiency, German learners' use of explicit temporal means is similar to that of intermediate learners. The most prominent strategy is still the adverbial style. This strategy was employed less frequently than in the intermediate group 55% (13 occurrences) but this difference is not significant (z = 0.74, n.s.). Further, like learners at the medium proficiency level advanced learners use aspectual contrast more often than aspectual juxtaposition.

 is also used by the German advanced group in 45% (10 occurrences) of the cases. But here, the difference between the advanced and the intermediate German group is not significant either (z = 1.23, n.s.). No significant difference can be observed between English and German advanced learners in their use of the stronger aspectual style (z = 0.45, n.s.). In addition, German advanced learners' use of this is not different from that of the Czech native group (z = 0.79, n.s.). English advanced learners, however, use the stronger aspectual style more often than Czech native speakers (z = 2.67, p < .05).

Consider example (7.14) where simultaneity is expressed by means of aspectual contrast between a simplex imperfective and a derived perfective verb. The learner is using the present tense:

(7.14) Tam *sedí* (Imperf-S) nějaký pán na sófě,   (SUB12FORM_GER_CZ)
        a *přijdou* (Perf-D) lidi s nějakými nástroji v ruce,
        a pak na konci je tam formule jedna, já nevím co, kanál plus.

        'There *is* some fellow *sitting* on a sofa
        and some people *come in* with some instruments in their hands,
        and then at the end there is formula one,
        I do not know what, channel plus.'

Another pattern can be observed with regard to the use of the weaker aspectual style - 72% (7 occurrences) of the instances: German learners at the advanced proficiency level used the weaker aspectual style more often than German learners at the medium proficiency level (z = 1.86, p < .05). But they did not use it as often as the English advanced learners (z = 1.87, p < .05). Czech

native speakers made use of the weaker aspectual style more often than both advanced groups (z = 3.51 [Cz-native speakers vs. English advanced learners]; z = 3.97 [Cz-native speakers vs. German advanced learners], p < .05).

Moreover, German speakers in the advanced group employed a higher number of different lexical devices overall than speakers in the intermediate group. Whereas the intermediate group used adverbials, the advanced group also employed when-clauses and phase verbs. Compare the following figure:
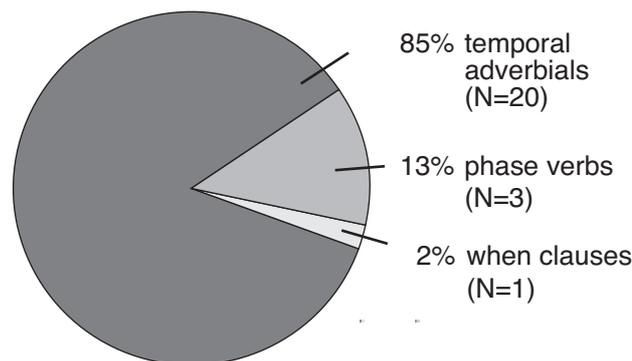
Figure 7.14 German advanced learners' use of explicit temporal devices in the weaker aspectual style

Despite the higher diversity in usage of additional explicit temporal devices, German advanced learners have a clear preference for adverbials over any other lexical marking option when expressing simultaneity in the weaker aspectual style. (χ^2 (2) = 5.841, p < .05). Take a look at the case illustrated in the next example. Here, a temporal adverbial co-occurs with the aspectual contrast between a derived perfective and the simplex imperfective verb form:

(7.15) a *vezme* (Perf-D) si nějaký nápoj,   (SUB12POINT_GER_CZ)
           double cooler se jmenuje,
           a *v tý chvíli* (AdvP) stojí (Imperf-S) dole holka,
           je před nebo pod pod oknem
           a mává mu

           'and *takes* some drink
           it is called double cooler
           and *at this moment* a girl is standing below him,
           she is in front or below the window
           and is waving at him'

Apart from the increased use of other lexical devices, some occurrences of multiple combinations (aspect combined with more than one additional item) were found in the German advanced learners' data set. This is demonstrated in

example (7.16) where a temporal adverbial, when-clause and aspectual contrast express simultaneity in combination:

(7.16) ale *v tom okamžiku* (AdvP),   (SUB4POST_GER_CZ)
        když on z toho vylízává (Imperf-D) tu hořčici,
        se otevřou (Perf-D) dveře,
        a zřejmě *přichází* (Imperf-D)jeho starší bratr

        'but *at this moment* when he *is licking* the mustard from it,
        the door *opens*,
        and probably his older brother *is coming in*'

In summary, although the trend for both intermediate and advanced German learners remains the same - the adverbial style is preferred to any other strategy - the advanced learners overall used more aspectual marking and combined it more often with another device than the intermediate group. Furthermore, advanced learners combined more than one lexical item with aspectual devices in order to express simultaneity. This multiple combination strategy was not used at all by German learners at the medium level of proficiency.

7.5 Level of proficiency: English vs. German learners

In this section, significant differences between English and German learners at each level of proficiency are reported and discussed. Also, learners' performance is contrasted with that of Czech native speakers.

7.5.1 Basic level of proficiency

English beginners expressed simultaneity in 60% of the cases (30 occurrences) and German beginners in 20% (3 occurrences) of the time. This, however, could be artefact of small sample size. English learners at this level of proficiency employed explicit temporal and explicit atemporal devices approximately equally often: temporal devices - 53% (15 occurrences) of the time, atemporal devices in 47% of the cases (14 occurrences). German beginners mark simultaneity on rare occasions, but they also used only explicit temporal markers for this purpose. By not using any atemporal devices whatsoever, German beginners differ essentially from English beginners.

On the basis of these findings, the questions arises why German beginners do not employ atemporal devices at all, while English beginners do?

Although there are only three German subjects at the basic proficiency level and only three English subjects at the advanced proficiency level, they all exhibit a particular pattern with respect to their use of explicit atemporal devices. At the basic and advanced level of proficiency, German learners' use of atemporal means is reversed vis à vis the English learners. German beginners do not employ them at all, while German advanced learners make extensive use of them. Moreover, while speaking Czech, German native speakers use atemporal means more frequently than English or Czech native speakers, but not as often as in their mother tongue. Two two plausible explanations for this may be: (a) German beginners still rely on the source language when employing atemporal devices in Czech and/or (b) they have not yet acquired the appropriate linguistic markers used typically in the target language. Further, since the use of explicit atemporal devices by Czech native speakers is limited, Germans at the advanced proficiency level are more in line with the target language than English learners, who do not employ atemporal means at the advanced proficiency level at all. In other words, with respect to the use of explicit atemporal means, German learners seem to deviate from the target language more at the basic proficiency level, while the English learners diverge from the target language more at the advanced than the basic level of proficiency. As already explained in section 7.4.1, these observations are interpreted as a direct consequence of the interaction between the initial use of temporal adverbials by German and aspectual marking by English beginners and the typological similarity between the respective SL and the TL.

With respect to the type of explicit devices employed for marking simultaneity, another substantial difference between the two beginner groups can be found. Germans exclusively use the adverbial style. English beginners, on the other hand, always express simultaneity by means of aspect: mainly using the stronger aspectual style (aspectual contrast or juxtaposition) or, in some instances, the combination of aspect and adverbials (the weaker aspectual style).

The findings for the German learners would be in line with the initial hypothesis that the adverbial style is the most basic building block learners use for marking simultaneity in the target language. However, English beginners show a different pattern, using mainly . No occurrences of the adverbial style were found in the English beginner data. As opposed to German subjects, English subjects also use the stronger aspectual style in their source language. It would, therefore, be natural to assume that the use of this strategy at the basic

level of proficiency is rooted in the source language. Note, however, that the difference between the use in the SL and in the TL is significant: English beginners employ the stronger aspectual style more often in the target than in the source language. This and the observation that German beginners do not employ aspectual marking at all suggest that English beginners are more target language sensitive than German beginners. The fact that only German learners rely on the adverbial strategy while English beginners use aspectual marking only, provides evidence for influence of the source language.

English and German beginners vs. Czech native speakers

Since it is prototypical for Czech native speakers to use aspectual devices in order to express simultaneity explicitly, the English beginners' strategy of using the stronger aspectual style for the same purpose is very much along the lines of the target language. German beginners, however, deviate from the prototypical strategy of the target language to a large extent. This is because they do not employ aspect at all and instead only use adverbials for explicit expression of simultaneity. Note that employing adverbials is not a violation of the target language. Nevertheless, to exclusively use adverbials to mark simultaneity is an exceptional case in the Czech native data.

In the target language, explicit atemporal devices are scarcely used by native speakers and even then often in combination with aspectual marking. From this point of view, English beginners deviate from the native speakers in that they use almost as many explicit temporal as atemporal devices for expressing temporal simultaneity. German beginners, however, do not employ atemporal devices at all.

At the same time, German beginners frequently fail to mark the relevant scene as simultaneous at all (cf. 80% not marked at all). Therefore, it is only logical that if they were mark simultaneity more often in general, the number of atemporal and temporal devices would increase. For this reason, no definite conclusion is made with respect to the use of atemporal means by German beginners.

The fact is, though, that speakers of two different languages at the same level of proficiency choose two very distinct ways for encoding temporal simultaneity explicitly in language. Also, it is remarkable that English beginners' overall marking of simultaneity is relatively high (cf. English beginners: 60%; German beginners: 20%).

7.5.2 Medium level of proficiency

English learners mark simultaneity more often - 80% of all cases (28 occurrences) - than German learners 62% of the cases (28 occurrences). The same difference was observed previously between the English and German beginners.

The general tendency at this level of proficiency is that explicit temporal devices are preferred over explicit atemporal devices in both learner groups. When comparing groups with each other, however, English intermediate learners used explicit temporal devices more often - 77% of the time (27 occurrences) - than German intermediate learners - 44% (20 occurrences). By contrast, German intermediate learners made as much use of atemporal devices - 22% (10 occurrences) of the instances - as English intermediate learners - 21% (7 occurrences). Comparing German intermediate learners and German basic learners, the pattern is as follows: the latter did not employ atemporal means at all, the former group used them as frequently as the English intermediate learners.

Although there was no significant increase in the usage of explicit temporal means from English beginners to English intermediate learners, the difference between the two intermediate groups is significant. Moreover, the proportion of explicit atemporal and explicit temporal devices employed by English learners differs from the basic to the medium level of proficiency. At the basic proficiency level, there is no significant difference in the amount of explicit temporal and explicit atemporal devices employed by English beginners. This changes radically when looking at the same proportion at the medium level of proficiency: here, temporal devices are used more frequently than atemporal devices (χ^2 (2) = 6.3, p < .05). In other words, English intermediate learners use fewer atemporal means and more temporal devices for marking simultaneity compared to English basic learners.

Comparing the performance of German learners at the basic and medium level of proficiency, the use of explicit temporal as well as explicit atemporal means increases (z = 3.2, p < .05). This increase is especially apparent when looking at the employment of atemporal devices: from 0% at the basic level to 36% at the medium level of proficiency.

For each intermediate learner group, a preference for certain types of explicit temporal devices can be detected. Speakers in the English intermediate group chose to employ aspectual marking - 93% (19 occurrences) the most. They

used it alone in 47% (10 occurrences) of the cases – the stronger aspectual style - or in combination 46% (9 occurrences) - the weaker aspectual style.

A different pattern emerges when looking at the speakers from the German intermediate group. Despite the tremendous increase in the usage of aspectual devices, especially the aspectual contrast/juxtaposition used in the stronger aspectual style, German intermediate learners still employed the adverbial style quite often. It was used 67% (13 occurrences) of the time while the overall aspectual devices were only used in 33% (7 occurrences) of the cases. Moreover, apart from the still prevailing tendency to use adverbials alone for explicit temporal marking of simultaneity, aspectual devices in isolation are preferred to using another lexical device in combination (aspectual marking alone: 67% (10 occurrences); aspectual marking in combination: 33% (5 occurrences).

English and German intermediate learners vs. Czech native speakers

At the medium level of proficiency, English learners follow the same trend observed in English beginners: they move towards the target language employing more aspectual marking overall, increasing its use in combination with another lexical device, and simultaneously decreasing the use of aspectual devices in isolation. As a matter of fact, the distribution of aspect used in the stronger aspectual style and in the weaker aspectual style is alike: 47% vs. 46%. The only deviation from the target language is that English intermediate learners employed the adverbial style only on rare occasions. The conclusion is that if English intermediate learners do not employ aspect and still want to mark simultaneity explicitly, the only other remaining option for them is to use explicit atemporal devices.

German intermediate learners predominantly made use of the adverbial style and also used aspectual marking. In this manner, they deviate from the target language less than German beginners. Still, German intermediate learners employed twice as much aspectual contrast/juxtapostion in isolation (the stronger aspectual style) as Czech native speakers. From this point of view, German intermediate learners are somewhat similar to English beginners in that they also make extended use of aspectual devices alone.

As far as explicit atemporal means are concerned, both learner groups at the medium level of proficiency show a similar trend: they use atemporal devices more often than Czech native speakers. Moreover, they do not combine them with any other linguistic device for marking simultaneity, but rather use them

alone. In this sense, English and German intermediate learners' use of atemporal means represents a common strategy for simultaneity marking in Czech. They differ from the target language quantitatively (in the number of occurrences) and qualitatively (by not combining but using atemporal devices on their own).

7.5.3 Advanced level of proficiency

Like at the basic and medium levels of proficiency, English advanced learners of Czech express simultaneity overall more often than German learners at the same level of proficiency. As a matter of fact, English advanced learners marked simultaneity in every possible instance while German advanced learners still failed to do so 28% (11 occurrences) of the time. Note, though, that Czech native speakers did not express simultaneity in 16% (16 occurrences) of all cases.

Another striking difference can be observed in the use of explicit temporal and explicit atemporal devices. English advanced learners used temporal means more often than German advanced learners. German advanced learners, on the other hand, employed atemporal devices in 27% (9 occurrences) of the cases whereas speakers from the English advanced group marked simultaneity completely without them.

In contrast to the differences found between English and German intermediate learners, both advanced learner groups employed the simple aspectual and the weaker aspectual style equally often.

A difference can be observed in the use of aspectual devices overall and the employment of the adverbial style: English advanced learners made more use of aspectual devices - 100% of cases (15 occurrences) - and no use of the adverbial style at all. German advanced learners, by contrast, still employed the adverbial style in 55% (18 occurrences) of the cases. Aspectual devices remained a "fallback strategy" for German advanced learners occurring 45% (14 occurrences) of the time.

The range of lexical devices used in combination with aspectual markers was similar in both groups. Advanced learners of both languages tended to primarily use temporal adverbials and, at the same time, create multiple combinations involving more than one additional lexical item.

English and German advanced learners vs. Czech native speakers

For English advanced learners, two tendencies can be observed: (1) in line with the predominant strategy found in Czech native speakers, English learners also prefer to employ aspectual marking over any other marking option. Furthermore, like in the Czech data, aspectual devices are used more often in the combined than in the stronger aspectual style. However, (2) in contrast to Czech native speakers, advanced English learners do not use the adverbial style at all. Perhaps this is the reason that advanced learners always employ aspectual devices when marking simultaneity explicitly. By not exploiting all the options used by the Czech native group, English advanced learners deviate from the target language. In other words, English advanced learners differ from Czech native speakers in a qualitative way because they entirely neglect a possibility for explicit marking of simultaneity in Czech.

German advanced learners of Czech express simultaneity either by means of aspectual marking (combined or in isolation) or via the adverbial style. There is no difference between the use of these two ways in the group of German advanced learners (χ^2 (2) = 1.7, n.s.). In other words, they use the adverbial style and means of aspect equally often. However, they employed the adverbial style more frequently than Czech native speakers (z = 4.72, p < .05). In other words, German advanced learners differ quantitatively from Czech native speakers. Although they employ all three possibilities for marking simultaneity explicitly in Czech (, the weaker aspectual style and the adverbial style), their use of the adverbial style is "too frequent". That is, with respect to the use of the adverbial style, German advanced learners deviate from the target language. In fact, German learners at all proficiency levels use the adverbial style more often than the Czech native group. But additionally, beginners and intermediate learners make use of temporal adverbials in a non-target language manner.

At the advanced level of proficiency, German learners use more explicit atemporal means than Czech native speakers. English learners do not employ these devices at all. In this manner, both learner groups deviate from the target language because Czech native speakers make a moderate use of atemporal devices. In other words, German advanced learners represent one extreme by employing too many explicit atemporal devices, while English advanced learners stand at the other extreme by not using them at all.

Finally, the main difference between the use of explicit atemporal devices by German learners at the advanced level of proficiency and Czech native speakers is that the latter group employs the atemporal devices mainly in combination with explicit means.

7.6 Order of languages in task

In this section, I briefly report the results on the variable order of languages used: SL->TL and TL->SL (other independent variables such as type of instructions and knowledge of other Slavic languages are discussed in chapter 8)[6]. The reason for testing and controlling such variables was to make sure that they did not interfere with the linguistic research questions pursued in the present study. Since do not expect that language background in connection with any other independent variable tested here affects learners' performance, I treat English and German learner groups as one learner group.

The linguistic categories compared in this section are: the overall explicit marking of simultaneity, the explicit temporal marking of simultaneity, the explicit atemporal marking of simultaneity, and finally the overall use of aspectual marking. The idea behind the choice of the last category is to weigh the very specific domain of aspectual marking against the very general domain of overall explicit simultaneity marking. In the coding system, carrying out the latter - marking simultaneity in general - is the prerequisite for the use of the former - the employment of aspect. Moreover, while the overall explicit marking of simultaneity is assumed not to be taught (because it is often context and speaker dependent), the aspectual marking might potentially be influenced by external factors such as formal instructions.

As mentioned previously, 18 out of 40 learners were asked to narrate in the source language (SL) first and then in the target language (TL). The other 22 learners performed the same task in the opposite order; first in the TL and then in the respective SL. Compare the numbers represented in percentages (N = number of utterances based on five testing stimuli; *= significant):

---

[6] The data were also coded for the independent variable gender: Out of 40 learners, 14 were female, 26 were male. A chi-square test did not reject the null hypothesis: there are no significant differences between genders with regard to the overall explicit marking of simultaneity, the explicit temporal and explicit atemporal marking of simultaneity, and the use of aspectual devices for expression of simultaneity in Czech.

	SL -> TL (N=90)	TL -> SL (N=110)
overall explicit marking of sim.	77.8%*	60.9%*
explicit temporal marking	54.4%	47.1%
explicit atemporal marking	23.3%	20.8%
overall use of aspectual marking	46.7%	41.8%

Table 7.15   Order of languages in task

The reason for testing both orders was to check whether the first language (either the SL or the TL) in which the task was performed had an influence on learners' production. In general, learners who started to narrate in their SL marked simultaneity explicitly in the second trial more often than those who started the task in the TL (Czech) (χ^2 (3) = 25.7, p < .05). This result holds true for English as well as German learners of Czech. In other domains, no significant difference was found. When comparing learners' overall explicit marking of simultaneity at all three levels of proficiency, a more fine-grained picture emerges (N = number of utterances based on five testing stimuli; *= significant):

	SL -> TL	TL -> SL
Advanced	80% (N=25)	80% (N=35)
Medium	86% (N=35)*	65% (N=40)*
Basic	67% (N=30)*	37% (N=35)*

Table 7.16   Overall explicit marking of simultaneity - level of proficiency

From the above table follows: for advanced learners, it did not matter whether they started the task in the TL or SL. In both cases, the overall explicit marking of simultaneity was 80%. In other words, their advanced level of proficiency allowed for an elaborated and task appropriate performance in both languages.

At the medium level of proficiency, the order of languages affected the overall marking of simultaneity (z = 2.6, p < .05). Intermediate learners marked simultaneity by explicit devices more often when they started the elicitation task in the respective source language. However, when they started narrating in the target language (TL -> SL), the amount of expressed simultaneity decreased to a great extent. In other words, the linguistic limitations intermediate learners are confronted with when first giving a retelling in Czech are reflected in a significant decrease in the number of occurrences of marked simultaneity in the source language. In this sense, intermediate learners adapt the second performance to the first one. That is, their narration in the source language is "less sophisticated". A similar pattern can be also found when they start to narrate in the source language (SL -> TL). The difference, however, is

that in this order, the overall amount of marked simultaneity increases. In other words, starting the task in the source language has a "positive effect" on the retelling in the target language. The same logic is true for learners at the basic level of proficiency. The differences in the overall explicit marking of simultaneity between beginners who first give a retelling in the SL and then in TL are significant ($z = 1.9$, $p < .05$).

When comparing the three groups - advanced vs. medium vs. basic level of proficiency - some differences can be noticed ($z = 1.82$ [advanced vs. basic]; $z = 2.6$ $p < .05$; $z = 0.9$ [advanced vs. intermediate], n.s.). In either order (SL -> TL, TL -> SL), advanced learners differ only from beginners. No significant difference can be observed between learners at the medium and advanced level of proficiency. In addition, for both orders, learners at the medium level of proficiency differ from learners at the basic level of proficiency ($z = 2.5$, $p < .05$).

These results support the previous claim that proficiency in the target language influences the overall marking of simultaneity. Moreover, the better the proficiency, the less relevant it is for a learner's performance if the first language is the source or the target language. In this sense, intermediate learners are better than beginners but do not necessarily deviate from the advanced learners.

One final point regarding the order of language and the use of aspectual marking by each learner group. No significant difference was found between the two conditions (SL before TL and TL before SL) with respect to the overall use of aspectual marking. Based on the findings of this study, one could assume that in this case - usage of aspect - the source language could play a major role. For this reason, I closely examined the interaction between the order of languages, the type of source language (English vs. German) and the overall use of aspectual marking. For a summary, consider table 7.17 (N = number of utterances based on five testing items; *= significant):

	TL -> SL	SL -> TL
English	55%(N=55)*	43% (N=45)
German	29%(N=55)	40% (N=45)

Table 7.17   The overall use of aspectual marking by English and German learners in interaction with order of languages

Two major differences can be found: (1) under the condition target language before source language, English learners produced more aspectual markers

than German learners (z = 3.2, p < .05). (2) Under the second condition, source language before target language, no difference could be determined between the English and the German learners (z = 0.4, n.s.). However, English learners that started with the source language, used less aspectual marking than those who started with the target language. In other words, English learners produce more -ing forms (for more detail, see chapter 2) in English after delivering a retelling of the same set of stimuli in Czech.

To sum up, only the variable 'order of languages' turned out to show an effect. In the narration order SL before TL, both learner groups used more explicit markers overall than in the opposite order. This, however, only holds true for beginners and intermediate learners. Additionally, English learners used more aspectual marking not only in the order SL before TL but also in the reverse order. German learners' use of aspectual marking is not affected by the narration order at all. In other domains (the use of explicit temporal and atemporal devices and the overall use of aspectual marking), the order of language has no significant effect.

These findings suggest that (a) English learners, in contrast to German learners, show more sensitivity (perceptiveness) towards the overtly marked Czech aspect. Moreover, one could say that we observed a "priming effect" in case of English learners. And (b), since English learners did not exhibit a similar "priming effect" when retelling in English first, we could speculate that the aspectual features of Czech are in some sense more prominent and dominant than the aspectual features of English.

7.7 Summary

Throughout this chapter, learners' production data were compared to that of Czech native speakers. In terms of simultaneity expression, the target language performance can be characterized as follows:

(1)   Explicit temporal preferred over explicit atemporal devices

(2)   Explicit atemporal devices used mainly in combination with explicit temporal devices

(3)   If explicit temporal devices are employed, then mainly in combination with various temporal adverbials. Additionally, there is a slight preference for the usage of multiple combinations.

(4)   Some occurrences of the adverbial style typically used by German native speakers as well as learners are also found in the Czech data.

As English and German speakers move towards employing devices typically used by Czech native speakers for the expression of simultaneity (1-4), the following general acquisitional steps can be observed in learners' production.

English learners

> **Basic**: Frequent use of aspectual devices (presence of derivational morphology) in the stronger aspectual style sometime in the weaker aspectual style; aspectual justaposition preferred over aspectual contrast; intensive use of atemporal devices; no use of the adverbial style
>
> **Medium** Decline in the use of explicit atemporal devices, strong growth in the overall use of aspectual devices; the distribution of aspect alone (the stronger aspectual) and in combination (the weaker aspectual style) is equal; overall, the juxtaposition of two imperfective verbs is used more often than the contrast of an imperfective and a perfective verb; very limited use of the adverbial style; no occurrences of multiple combinations (more than one additional lexical item in combination with aspectual devices)
>
> **Advanced**: No use of explicit atemporal means, simultaneity expressed always by means of aspect; aspectual marking is used more often in the weaker than in the stronger aspectual style; in comparison to Czech data, a higher proportion of the stronger aspectual style; aspectual juxtaposition more frequent than aspectual contrast; emergence of multiple combinations; no use of the adverbial style

For illustration, consider the following figure:
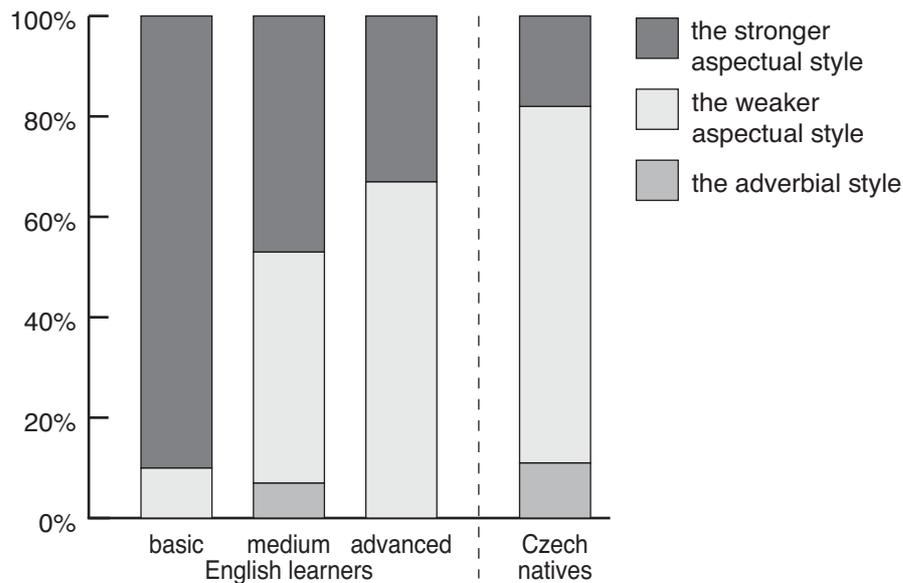
Figure 7.15 English learners' expression of simultaneity at all proficiency levels

German learners

Basic: No explicit atemporal devices whatsoever; only a few instances where simultaneity is expressed at all, high frequency of no marking; if simultaneity is expressed, it is done through the adverbial style

Medium: Emergence of explicit atemporal devices; decline in the usage of the adverbial style and simultaneous increase in the usage of aspectual means; aspectual marking appears predominantly in the stronger aspectual style but is in some cases also used in the weaker aspectual style; the prefered aspectual constallation is the aspectual contrast of a perfective and an imperfective verb; the whole range of options as used by Czech native speakers is in use

Advanced: The use of explicit atemporal devices is stronger. From the Czech point of view, they are used in a non-target like manner, namely in isolation (as opposed to in combination with aspectual marking); the number of occurrences of the adverbial style drops and the number of occurrences of aspectual devices increases; the distribution of the stronger aspectual style and the weaker aspectual style is target language appropriate: more use in combination than in isolation; aspectual contrast more frequent than asepctual opposition; some occurrences of multiple combinations.

For illustration, see the figure 7.16:

217
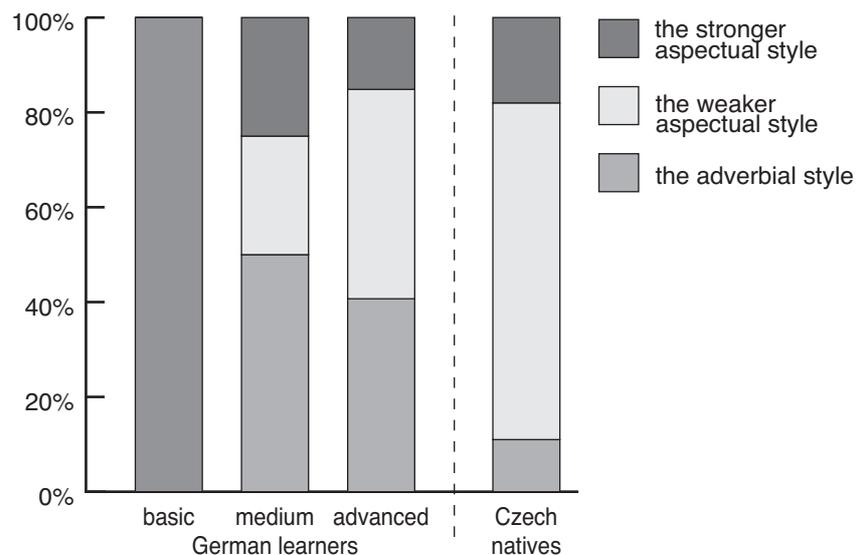
Figure 7.16 German learners' expression of simultaneity at all proficiency
levels

As already mentioned, English and German learners differ in their use of
aspect. I briefly discussed the extensive use of the imperfective by the English
learner group in section 7.3.2. I also pointed out in section 7.4.2 that the
German learner group tends to employ less imperfective and more perfective
verb forms. Further, in many occurrences of the adverbial style used by
German learners in Czech, the verbs are often derived perfectives. These
differences are explored in more detail in chapter 8.

It has been shown that English and German learners differ in the way they mark simultaneity in Czech: while English learners rely on aspectual devices when expressing simultaneity in the target language, German learners prefer to employ temporal adverbials for the same purpose. This difference is not based on German speakers' INABILITY to use aspectual marking in Czech, as it may seem on the surface. On the contrary, German learners are in the position to use aspectual devices in Czech but they use one particular aspect (derived perfective aspect such as *do-vařit* 'to finish cooking') far more often than the other. This way they deviate not only from the Czech native group, but also from the English learner group. Note that a similar pattern can also be found in English learners: they diverge from the target language by "overusing" the imperfective aspect (such as *vaří(-vá)* 'to be cooking/to have the habit to cook'. For this analysis, the entire database was used. That means that for each subject, all the narrations from all eleven testing items (the set of 11) in the respective source and target languages were considered.

In what follows, I investigate these patterns in more detail at all proficiency levels. In order to understand how aspect is used in the target language, the use of aspect by Czech native speakers will be presented first. In the following section, the same issue will be explored in English and German learners. In conclusion, I propose an alternative account for the acquisition of aspect in L2 Czech and interpret the findings concerning not only aspect but the overall expression of simultaneity in the frame of the current literature. In the last section of this chapter, other factors, such as the role of language instruction, are briefly addressed.

8.1 The use of aspect: Czech native speakers vs. learners of Czech

Recall that Czech verbs exist in several forms and are either interpreted as perfective or as imperfective.[1] These forms can either be simplex (no morphological marking: simplex imperfective - *vařit* 'to cook/to be cooking'; simplex perfective - *dát* 'to give once') or derived (a suffix and/or one or several prefixes added: derived imperfective – *dá-va-t* 'to be giving'; derived perfective – *do-vařit* 'to finish cooking', *do-vy-vařit* prádlo 'to finish laundry hot-cycle'). There are many Czech verbs that are simplex imperfective. Additionally, there is only a small group of simplex perfective verbs. In any case, the verb always has an aspectual interpretation be it perfective or imperfective.

In the next section, I focus on the formal rather than functional properties of derived verb forms, as it is difficult to establish whether learners use simplex verb forms in the target language appropriate function. For this reason, I mainly discuss derived verb forms under the assumption that the explicit marking of aspect carried out by learners has a functional motivation.

First, I go over the results from the Czech native speakers. The Czech native speakers used a total of 627 verb tokens - simple and derived forms together (types: 383). Out of these forms, 40% (252 occurrences) represent perfective verb forms: simplex perfective verbs occur in 70% (token: 177; types: 68) of the cases and derived perfective verbs in 30% (token: 75; types: 71). Imperfective verb forms were found in 60% (375 occurrences) of the cases: Simplex imperfective verbs represent 78% (token: 261; types: 160) whereas derived imperfective verbs represent 22% (token: 114; types: 52) of all cases.

Within each aspectual category, Czech native speakers used more simplex than derived forms in the experiment [for the perfective: χ^2 (1) = 20.23, p < .05); for the imperfective: χ^2 (1) = 18.7, p < .05)]. However, when comparing the distribution of the simplex and derived forms of the two aspects, no significant difference could be found (z = 0.21 [Perf]; z = 0.45 [Imperf], n.s.). For an overview, consider figure 8.1:

---

[1] For the purpose of this investigation, the basic distinction between perfective and imperfective is sufficient. All other readings such as habitual, generic, iterative, etc., are not considered.
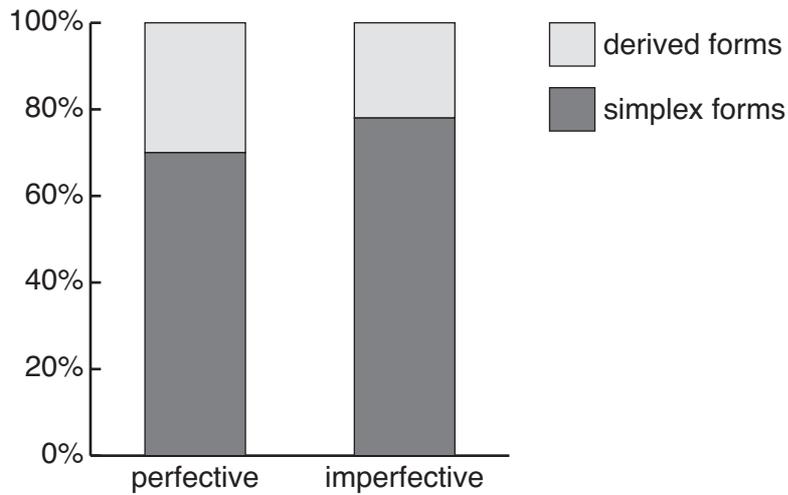
Figure 8.1   The use of perfective and imperfective aspect by Czech native speakers

For imperfectivization, the only option available in Czech is to use the suffix *-va*. Perfectivization, however, can be accomplished either by using a prefix or a suffix. Czech native speakers derive perfective verb forms by means of a prefix 69% (88 occurrences) of the time. They employ a suffix for this purpose only in 31% (40 occurrences) of the cases (χ^2 (1) = 5.21, p < .05). In other words, Czech native speakers derive a perfective verb form by adding a prefix rather than a suffix to the verb stem/root.

Compare the following figure illustrating the proportion of prefixed and suffixed verb forms used by Czech native speakers when deriving perfectivity:
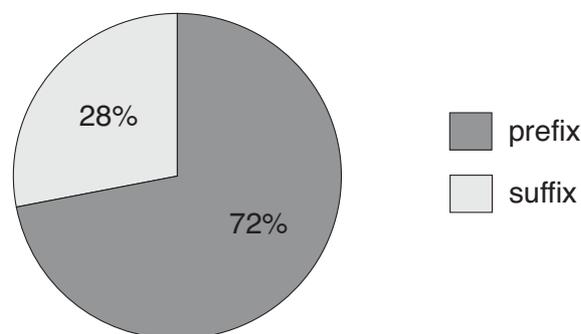
Figure 8.2   The use of prefixes and suffixes for perfectivization by Czech native speakers

The English learners used 1142 verb tokens in total (types: 754). Of those, 35% (400 occurrences) represent perfective verbs and 65% (742 occurrences) imperfective verbs. Simplex perfective verbs occur 76% (token: 304; type: 63) of the time, derived[2] perfective verbs 24% (token: 96; type: 55). Of all the imperfective verbs, 86% (token: 638; type: 542) are simplex imperfective forms. Derived imperfectives are used in 14% (token: 104; type: 79) of the cases.

Furthermore, of all perfective verbs, 31% (125 occurrences) are derived perfectives. The difference between derived perfective and imperfective verbs is not significant. Like Czech native speakers, English learners use more simplex than derived forms in each aspectual category [for the perfective: $(\chi^2 (1) = 23.2, p < .05)$; for the imperfective $(\chi^2 (1) = 21.84, p < .05)$]. In addition, similar to the Czech native group, no significant difference could be found when comparing the proportion of simplex and derived verbs of the two aspectual categories $(z = 0.64$ [Perf]; $z = 0.73$ [Imperf], n.s.).
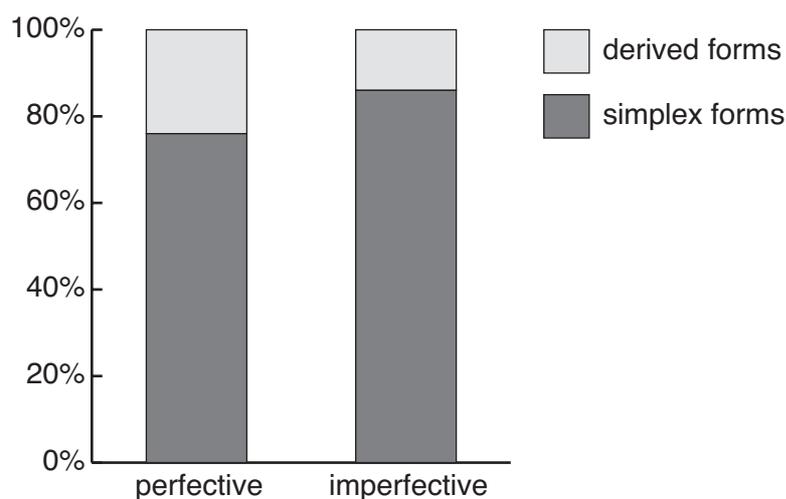

Figure 8.3   The use of perfective and imperfective aspect by English learners

Finally, like Czech native speakers, English learners also achieve perfectivization more often by using a prefix 72% (90 occurrences) of the time than by a suffix 28% (35 occurrences): This difference is significant $(\chi^2 (1) = 5.69, p < .05)$. Consider figure 8.4:

[2] These verbs are formed either by means of prefixation or suffixation.
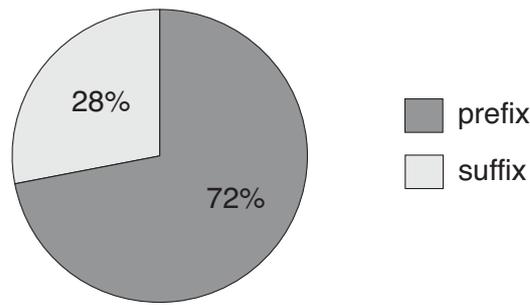
Figure 8.4 The use of prefixes and suffixes for perfectivization by English learners

Concerning the German learners, they employ overall the largest number of verbs.[3] The total number of verbs is 1227. Simplex perfective verbs are used in 63% (token: 258; type: 96) of the cases and derived[4] perfective verbs in 37% (token: 151; type: 149). Simplex imperfective forms occur in 92% (token: 753; type: 512) of the cases whereas derived imperfectives are employed only in 8% (token: 65; type: 14). Similar to the two previous groups, German learners, too, employ more simplex than derived verbs within each aspectual category [for the perfective: (χ^2 (1) = 6.3, p < .05), for the imperfective: (χ^2 (1) = 38.9, p < .05)]. For a better overview, see the next figure:
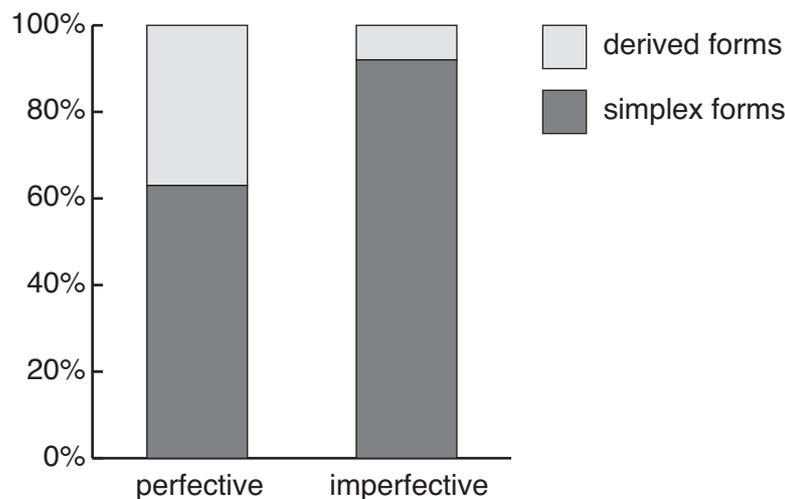

Figure 8.5 The use of perfective and imperfective aspect by German learners

Unlike Czech native speakers and English learners, the German learners use more *derived perfective* verbs than English learners and Czech native speakers (z = 4.9 [Ger-learners vs. Eng-learners], z = 2.1 [Ger-learners vs. Cz-native

---

[3] The number of verbs used by learners and native speakers is related to the length of the entire retelling. In this sense, German learners produced the longest narrations overall.

[4] These verbs are formed either by means of prefixation or suffixation.

speakers), p < .05). When comparing English learners and Czech native speakers, no significant difference could be found (z = 0.9, n.s.). In other words, English learners and Czech native speakers use derived perfective verbs equally often. For comparison, consider the following figure:
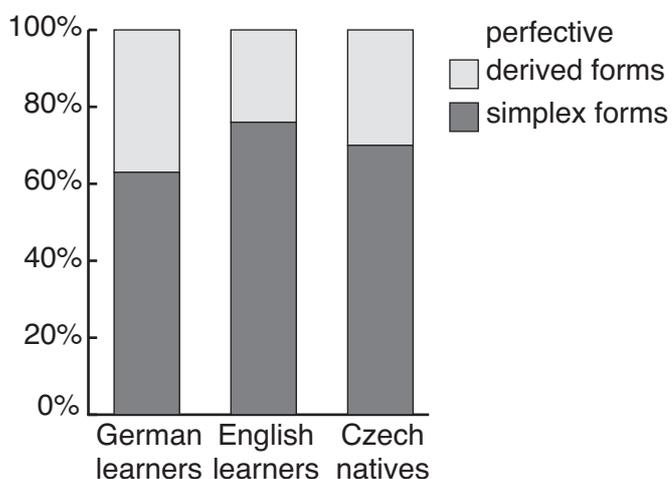

Figure 8.6   The use of simplex and derived perfective aspect by all learners and Czech native speakers

English learners, on the other hand, use *derived imperfective* aspect more often than German learners (z = 4.3, p < .05). Czech native speakers employ derived imperfective aspect more often than any learner group (z = 3.7 [Cz-native speakers vs. Eng-learners]; z = 7.6 [Cz-native speakers vs. Ger-learners), p < .05). These findings are summarized in figure 8.7:
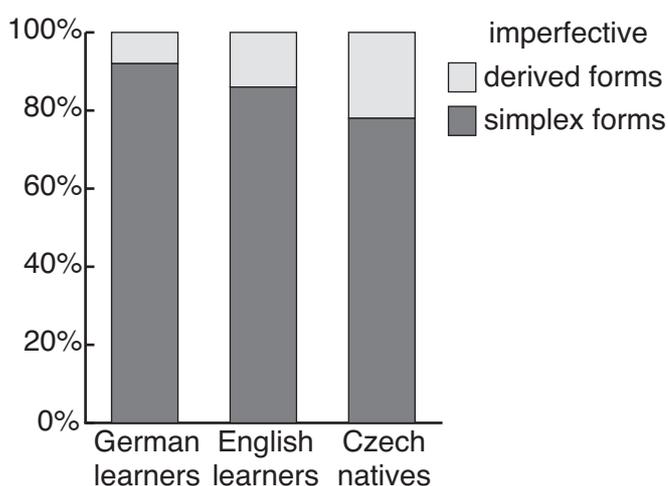

Figure 8.7   The use of simplex and derived imperfective aspect by all learners and Czech native speakers

In order to derive a perfective verb, German learners also prefer prefixes to suffixes. Prefixes are used 91% (372 occurrences) of the time, suffixes only 9%

(37 occurrences). Similar to the other two groups, German learners use prefixation more often than suffixation for deriving the perfective aspect (χ^2 (1) = 13.7, p < .05).

When the use of the perfectivization suffix and prefix by the learner groups and the Czech native group is compared, the following differences can be established: (1) German learners employed more prefixes than English learners and Czech native speakers (z = 5.3 [Ger-learners vs. Eng-learners]; z = 7.2 [Ger-learners vs. Cz-native speakers]). English learners, in contrast, used the perfectivization suffix more often than German learners (z = 4.9, p < .05). With respect to the use of this suffix, no significant difference was found between the English learner group and the Czech native group (z = 0.6, n.s.). For comparison, consider the following figure:
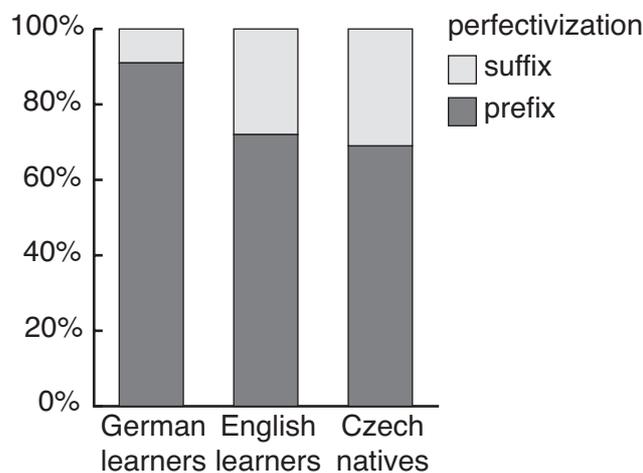

Figure 8.8   The use of prefixes and suffixes for perfectivization by German learners, English learners and Czech native speakers

To sum up, English and German learners differ in their frequency of deriving perfective and imperfective verbs. While German learners use more derived perfective verbs, English learners make more use of imperfectively marked verbs. Also, German learners use more perfectively derived verbs than Czech native speakers. This does not hold true for the English learners: Czech native speakers use derived imperfective verb forms more often than the English learner group (and the German learner group).

In other words, German learners "overuse" the derived perfective verbs in Czech. At the same time, they use much less imperfectively derived verbs than the Czech native speakers as well as the English learner group. English learners, on the other hand, never match the amount of derived imperfective or

perfective verbs used by the Czech native speakers. In this sense, imperfectively derived verbs are underrepresented in both learner groups.

German learners use more prefixes than English learners or Czech native speakers for deriving perfective verbs. Although English learners employed suffixes for perfectivization more often than German learners, there is no significant difference between German learners' use of suffixes and Czech native speakers' use. The same holds true for prefixes: no significant difference between English learners and Czech native speakers.

These results suggest that German learners have a strong inclination to derive perfective verbs and to carry out the perfectivization mainly by means of prefixes. In addition, the use of imperfective derived verbs is not only far less extensive than the use of perfective derived verbs but also substantially less frequent compared to the English learners and Czech native speakers.

English learners show a tendency to derive fewer perfective verbs than German learners. Overall, however, the difference between the amount of perfectively and imperfectively derived verbs within the English learner group is not significant. In this manner, English learners resemble Czech native speakers more than German learners.

English learners exhibit the ability to realize both aspectual derivation possibilities equally well. At this point, it can be concluded that English speakers of Czech are receptive to the basic aspectual distinction between perfective and imperfective, which makes it easier for them to express simultaneity in Czech by using aspectual marking.

German learners focus on the derivation of perfective verbs. Despite the possibility of using both options for perfectivization in Czech, a very strong preference for prefixation can be detected. Imperfective verbs are sometimes derived, but only rarely. This suggests that German learners are capable of imperfectivizing though they do not use this derivational strategy as often as Czech native speakers. Therefore, German speakers are NOT INSENSITIVE to the central aspectual opposition between the perfective and imperfective in Czech. However, they focus too much on the process of perfectivization and hence neglect the other operation necessary for effective use of the aspectual system. As explained later in this chapter, this is due to the influence of the source language.

As far as the target language employment of aspect is concerned, the Czech native speakers in the experiment used simplex imperfective and perfective verbs more often than the respective derived forms. Additionally, in the area of overtly marked aspect, Czech native speakers use a comparable amount of derived perfective and derived imperfective verbs.

8.2 The use of aspect: learners at different proficiency levels

Before turning to some possible explanations for the findings in the domain of aspect use, I outline its use by English and German learners at the three proficiency levels. The question will be investigated whether or not the differences between learners proposed in the previous section also hold true at different acquisitional stages. For the purpose of this analysis, the entire database containing all the retellings of all eleven testing items was used.

Recall that both learner groups employ aspectual marking when expressing simultaneity in Czech. English learners tend to use aspectual juxtaposition of two imperfective verbs more often than aspectual contrast. German learners, on the other hand, display the opposite by preferring aspectual contrast of a perfective and an imperfective verb to aspectual juxtaposition.

As pointed out in chapter 3, many verbs in Czech are simplex. This means that they are not morphologically marked for aspect, however, they have an aspectual meaning. In what comes next, I distinguish between simplex and derived verb forms in the learner data and investigate whether in this case, too, learners differ from each other and from the Czech native group. In my analysis of the Czech aspectual system only a few regularities grounded in the presence of inflectional morphology could be established. In other words, it has been shown that from a formal point of view, the Czech aspectual system is based on more exceptions than rules. Although this system is certainly challenging for a learner acquiring Czech as a second language, it is feasible to acquire (cf. sections 7.2 through 7.5). One could speculate here that learners when acquiring aspect in Czech do not (only) rely on the grammatical information but also make use of another information source such as location of the inflectional morpheme. This hypothesis is labeled as *perceptual saliency hypothesis*. I outline and discuss this hypothesis in section 8.4.

8.2.1 Basic level of proficiency

English as well as German beginners employ more simplex imperfective, for example *psát* 'to write/to be writing', than simplex perfective verb forms such as *dát* 'to give once' [English beginners: (χ^2 (1) = 4.6, p < .05); German beginners: (χ^2 (1) = 4.8, p < .05)]. Note that beginners do not always assign the target like function to aspectual forms. This, however, does not further affect learners' proper derivation of aspect for expressing simultaneity in the target language.

However, a z-test revealed that when comparing the use of the simple imperfective form between the groups, English beginners used simplex imperfectives more frequently than German beginners (z= 2.96, p < .05). In addition, English beginners made use of some derived imperfective verbs (14 occurrences), while German beginners did not use derived imperfective verb forms at all.

A reverse pattern can be observed with regard to the use of simplex and derived perfective verbs. When comparing the two beginner groups, German beginners employed simplex perfective verbs more often than English beginners do (z = 2.6, p < .05). Furthermore, they also used more derived perfective verbs than English beginners (z = 1.9, p < .05). Both learner groups used more prefixes than suffixes for deriving perfective verbs. There is no significant difference between English and German beginners when compared with respect to their use of perfectivizing prefixes and suffixes (z = 0.36, n.s.).

In addition to these findings, German beginners did not use *aspectual* pairs at all. English beginners, by contrast, produced 5 aspectual pairs.

In sum, for both beginner groups, it holds true that they make more use of simplex imperfectives than simplex perfectives. Furthermore, both groups prefer to apply prefixes for perfective verb derivation.

In comparison, however, German beginners use more simplex and derived perfective verb forms than English beginners. At the same time, English beginners employ more simplex imperfective and derived imperfective verbs than German beginners.

8.2.2 Medium level of proficiency

At the medium level of proficiency, the English as well as the German learner group used more simplex imperfective than perfective forms (English learners:

χ^2 (1) = 4.7, p < .05; German learners: χ^2 (1, N) = 53.3, p < .05). German intermediate learners use more simplex imperfective than simplex perfective verbs, while the tendency in English intermediate learners is rather towards the middle: a more balanced occurrence of simplex perfective and simplex imperfective verb forms. Further, together with the increased usage of simplex imperfective verbs, German intermediate learners start to produce some aspectual pairs (5 in total).

When comparing the two groups, an unexpected pattern emerges since this reverses the pattern found for beginners: English intermediate learners make more use of simplex perfective forms than German intermediate learners (z = 2.7, p < .05). German intermediate learners, by contrast, use simplex imperfective forms more often than English learners (z = 3.5, p < .05).

However, in the derivational domain, German intermediate learners use more perfectively derived verbs than English intermediate learners (z = 3.1, p < .05). Furthermore, English intermediate learners use more derived imperfective verbs than German intermediate learners (z = 2.4, p .05). This is again in line with the results from the beginners' section.

Like in the beginners, both intermediate groups favor prefixation over suffixation for deriving perfective verbs.[5] But in addition, German intermediate learners in comparison to English intermediate learners use more prefixes than suffixes (z = 1.9, p < .05).

This preference can not be explained by a difference in the total number of verbs since English as well as German learners at the medium level of proficiency employed on average a comparable amount of verbs: English intermediate - 62 verbs per subject; German intermediate - 66 verbs per subject.

Next, I summarize the findings at the medium proficiency level and compare them with those from the basic proficiency level.

Also at medium proficiency level, English and German learners employed *more* imperfective than perfective verbs overall. Yet, when comparing the two intermediate groups, English learners used more simplex perfective verbs than

---

[5] Since no input studies on L2 Czech are available and the Czech National Corpus has not yet been tagged for aspect, we can not currently exclude that this preference is driven by the frequency of prefixed verbs in the input.

German intermediate learners. They, in contrast, used more simplex imperfective verbs than English intermediate learners. As pointed out above, English and German beginners adopted a reverse pattern.

German intermediate learners, nonetheless, exhibited the same behavior as German beginners and used more derived perfective verbs than English intermediate learners. The German intermediate learners used more prefixes for perfective derivation than the English intermediate learners. This difference was not found between the two beginner groups.

Similar to the English beginner group, English intermediate learners employed more derived imperfective verbs than German intermediate learners. Finally, German intermediate learners, as opposed to German beginners, constructed some aspectual pairs (e.g. *dát* [Perf] vs. dávat [Imperf] – 'to give once' vs. 'to give/to be giving'; for more detail, see chapter 3, section 3.1.1).

8.2.3 Advanced level of proficiency

As observed earlier, learners as well as native speakers prefer to use simplex imperfective over simplex perfective forms. This also holds true for advanced English and German learners of Czech. Yet, no significant difference between the two advanced learner groups could be found in their overall use of simplex imperfective and simplex perfective forms. In other words, they used simplex verb forms equally often, which is in line with target language use.

The two advanced groups differ with respect to the aspectual derivation. German advanced learners used more derived perfective verbs than English advanced learners ($z = 1.92$, $p < .05$). In the same way, English advanced learners make use of derived imperfective verbs more frequently than German advanced learners ($z = 2.64$, $p < .05$).

When compared to the English advanced group, the German advanced group employed more prefixes when marking verbs for perfectivity ($z = 2.71$, $p < .05$). The English group, on the other hand, exhibited the opposite. When compared to the German advanced learner group, they favor perfectivizing a verb by means of suffixation ($z = 2.54$, $p < .05$).

Moreover, looking at the preference within each group, Germans clearly chose prefixes over suffixes in order to signal the perfective aspect ($\chi^2 (1) = 12.3$, $p < .05$). In English advanced learners, by contrast, no significant difference could be observed between the employment of suffixes and prefixes in the area of

perfectivization. In other words, English advanced learners show a more balanced use of prefixes and suffixes for deriving perfectivity and make use of suffixes more often than German learners at the same proficiency level.

As far as the construction of aspectual pairs goes, the two advanced groups are comparable: each German and English advanced learner produced about 8 aspectual pairs. In comparison, in the data, every Czech native speaker used 14 aspectual counterparts on average.

In summary, like the learners at the other levels of proficiency, advanced learners also use more imperfective than perfective verbs. But when comparing these groups, there is no significant difference in their usage of simplex perfective and simplex imperfective verb forms. In other words, they use them equally frequently. However, they differ with respect to the amount of derivations they perform. English advanced learners make more derivations of imperfective verbs than German advanced learners. The latter group, however, use the perfectively derived verbs more frequently than the English advanced learners.

Throughout all levels of proficiency, German learners derive perfective verbs more often than English learners. The derivation is performed by prefixes. Except in the beginner group, German learners derive more perfectives by prefixation than English learners. Although English learners derived far fewer perfective verbs than German learners, they used more often suffixes than German learners at the intermediate and advanced level.

In the domain of imperfectivization, another solid pattern emerges. In all levels of proficiency, English subjects use more derived imperfectives than German subjects.

A striking pattern change can be seen at the medium level of proficiency in the overall use of imperfectives. Here, the common pairing - English with an increased use of imperfective, German together with an increased use of perfective - is completely reversed. German intermediate learners use more simplex imperfective verbs and English intermediate learners use more simplex perfective verbs.

In the advanced learners, all significant differences disappear from the area of simplex perfective and simplex imperfective verbs. Both learner groups use a comparable proportion of simplex verb forms.

8.3 Conclusions

The previous analyses show several results that are stable throughout all levels of proficiency.

(1)   Each learner group at every level of proficiency prefers to use simplex imperfective over simplex perfective verbs. This finding can be explained by the fact that there are more simplex imperfective than perfective verbs in the Czech data set. This may also explain the common assumption of prescriptive Czech grammars that the simplex (non-derived) imperfective form serves as a basic form for further derivation of the perfective (see also chapter 3, section 3.1.1).

(2)   English learners focus on DERIVATION of imperfective verbs during the entire acquisition course, as depicted and defined by this study. In the domain of the use of simplex imperfective verbs, this pattern is interrupted at the intermediate level of proficiency. Here, German learners take over and use the simplex imperfective verb form more often than the English group. The use of simplex imperfective forms is accompanied by the co-appearance of some aspectual pairs. This, in fact, may be the reason for the increased use of simplex imperfectives in intermediate German learners.

This latter finding suggests that English speakers learning Czech focus on the derivation of imperfective aspect. German speakers acquiring the same target language, on the other hand, pay attention to another aspectual operation: the derivation of aspect by means of prefixation. Both these results could be found at all levels of proficiency.

English subjects use suffixes for deriving perfective verb forms more often than German subjects. This difference is significant at all levels except the basic level of proficiency. I discuss this finding in more detail in the next section.

8.4 Discussion

In what follows, I present an alternative explanation for the findings in the aspectual domain. Furthermore, the main results of this study will be discussed in light of some other studies and suggest some general acquisitional mechanisms that are relevant not only to the acquisition of aspect but also temporal simultaneity.

The difference in aspect use by English and German learners of Czech could be motivated by the linguistic devices of the corresponding source languages: English learners of Czech use the imperfective mainly because English has a fully marked grammatical form for the expression of the imperfective - the suffix *–ing*. German, on the other hand, has a wide range of prefixes that modify the Aktionsart of the verb, which often leads to a perfective reading (for more detail, see chapter 3, section 3.1.1). Hence, German learners of Czech use more derived perfective than imperfective aspect. According to the logic of this account, German learners should not only derive perfective aspect by means of prefixation but also a comparable amount of perfective verb forms by means of suffixation. This, however, is not the case. Let us ignore the encoding of aspect for a moment and focus on differences in the *location* of the operation that is carried out in order to mark aspect in Czech (for a similar hypothesis in L1, see Slobin, 1973).

One can see that aspectual operations are taking place either on the *left* or the *right* side of the verb stem. On the right side, *two* different operations can take place: (a) imperfectivization (suffix *-va*) or (b) perfectivization (suffix *-nou*). Recall that perfectivization can also be accomplished by using a prefix, which is added to the verb on the left side. In other words, on the right side, two distinct operations can be carried out, on the left side, only *one*. These observations are summarized in figure 8.9:

LEFT		**RIGHT**
various prefixes	verb stem	suffixes
(one operation)		(two operations)
e.g. *VY-* (Perf)		*-NOU* (Perf) or *-VA* (Imperf)

Figure 8.9   The Czech aspectual system from a perceptual point of view

There is clear evidence that German learners of Czech "overmark" the perfective, while English learners show the opposite pattern by "overmarking" the imperfective. English learners employ the suffix *–va* to derive imperfective

verb forms. In addition, they use the suffix *-nou* more often for expressing the perfective aspect where German learners employ prefixes such as *vy-*. In other words, German learners focus on the *left* side of the verb stem whereas English learners concentrate on the *right* side of the verb stem.

Compare their respective target language systems:

LEFT		**RIGHT**
not present	verb stem	suffixes
not present		*-ing* (for imperfective)
not present		particles *up*, *off* (for perfective)

Figure 8.10   The English aspectual system from a perceptual point of view

LEFT		**RIGHT**
particles	verb stem	not present
e.g. *auf-* / *ab-*		not present

*Figure 8.11*   The German aspectual system from a perceptual point of view

For illustration, compare the following examples.

LEFT	**RIGHT**

(8.1)   German example - perfective reading
          auf-   ess-(en)

(8.2)   English example - perfective reading
                              eat-infinitive (to eat)   *up*

(8.3)   English example - progressive reading
                              eat-infinitive (to be eat)   *-ing*

We can see from these examples that all operations related to aspectual modification are carried out on the right side of the verb stem in English, while in German this is done on the left side of the verb stem. I am aware of the fact that many German prefixes such as the prefix *ab-* are separable and hence often appear on the right side of the verb stem as in the sentence '*Trenn* dieses Präfix

ab'![6] In English, on the other hand, this is never the case. Particles as well as the suffix *-ing* always appear on the right side of the verb.

The fact that English learners use more suffixes for perfectivization than the German group indicates that they also identify the aspectual operations performed on the right side of the verb stem. Note that imperfectivization is also achieved by means of suffixation in Czech. From this point of view, there is no difference between suffixation for the purpose of perfectivization and imperfectivization.

On the basis of these observations and the experimental evidence, a *perceptual saliency hypothesis* (PSH) is proposed which is assumed to play a role in the acquisition of aspect by German as well as English learners of Czech. The PSH states that learners pay attention to those features in the target language that are located in the same position as their counterparts in the source language. That is, German native speakers pay more attention to the left side of the verb while English native speakers focus on the right side. This hypothesis falls in line with my former assumption that the preference for a certain aspectual category - perfective vs. imperfective - is motivated by the respective source language. This observation suggests that learners might also rely on other than aspectual information, namely on LOCATIONAL DIFFERENCE, which is motivated by the make-up of the source language. In other words, the source language steers the search for the correct generalizations about the TL grammar.

The PSH is much in line with the *alternation hypothesis* (AH) proposed by Jansen, Lalleman, Muysken (1981: 315):

> Assume that in target language A there is an alternation between two surface structures, and in source language B only one of these two surface structures occurs. Then speakers of source language B acquring language A will overgeneralize in their interlanguage grammar the structure which correponds most closly to the structure in their own language.

The focus of their study was the acquisition of Dutch word order by adult native speakers of Turkish and Moroccan Arabic. The default word order

---

[6] Studies from first language acquisition of German show that children initially do not split the separable prefix from the verb stem, but rather use it as one lexical entry (Behrens 2003, Schulz & Penner 2002).

pattern in Turkish is SOV. In Moroccan Arabic, on the other hand, the SVO word order is strongly preferred. Both word orders – SOV and SVO – are permissible in Dutch. Jansen, Lalleman & Muysken found that at the onset of their Dutch acquisition, Turkish learners make use of the SOV whereas Marrocan Arabic learners employ SVO. These findings provide robust evidence in favor of the alternation hypothesis. That is, L2 learners initially rely on the source rather than the target language as long as the corresponding feature is at least an option in the target language.[7]

In a study on gapping in L2 Dutch by native speakers of several typologically different languages, Lalleman (1999) addressed the issue whether or not "the source language is the starting point in building hypotheses about the target language grammar" (Lalleman 1999: 159).

Consider examples (8.4) – (8.6) illustrating forward and/or backward gapping in Dutch main and/or subordinate clauses (from Lalleman 1999: 161):

(8.4) Sarah *drinkt* wijn en Robert (-) bier.   main clause: forward gapping
       Sarah drinks wine and Robert beer.

(8.5) Ik zie dat Sarah wijn *drinkt* en Robert bier (-). Sub. clause: backward gap.
       I see that Sarah drinks wine and Robert beer.

(8.6) Ik zie dat Sarah wijn heeft gedronken/gedronken heeft
       en Robert bier (-) (-).
       I see that Sarah drank/has drunk wine and Robert beer.

On the basis of her findings, Lalleman comes to the conclusion that the target language is the main force in early L2 acquisition and hence rejects the alternation hypothesis. Her main points of criticism with respect to Jansen, Lalleman, Muysken (1981) were the following:

(a) At the time of data collection, some informants had been exposed to the target language for more than ten years and thus were far beyond the beginner stage in their L2 development.

---

[7] There are other similar views on this subject. For example, Schwartz & Sprouse (1996) assume that L2 grammar only starts being reshaped when the differences between the target and the source language grammar widen. In other words, in the beginning L2 learners completely fall back on familiar structures from their own source language while the target language grammar does not play any role.

(b) The two Dutch word orders do not occur in speech directed at foreigners equally often, meaning that there are not two options. The SVO is the basic pattern.

Let us first address point (b). Jansen and colleagues found that the two learner groups employed two different word orders possible in the TL. If one of these two word order patterns occurs in the TL considerably more often than the other, the alternation hypothesis would not be fulfilled: feature A and feature B would no longer be alternative structures. If we reject this hypothesis and assume that learners follow the TL grammar (that is the SOV word order) from the very beginning, then the preference of the Turkish learner group for SVO is rather odd. Therefore, it seems more plausible to assume that their choice and the choice of the Moroccan learners was driven by the source language. To control for frequency is a necessary measure in general for testing hypotheses such as the alternation hypothesis. However, in this case, the "frequency effect" is not a sufficient reason to question the findings of Jansen, Lalleman, Muysken (1981).

Point (a) on the other hand, represents a possible obstacle not only for the alternation but also for the perceptual saliency hypothesis. In what follows, I explore this point in more detail.

As far as the level of proficiency of the two beginner groups is concerned, they could all be classified as 'Basic Variety' in the sense of Klein & Perdue (1997).[8] The length of exposure to the target language did not exceed more than six months. When marking aspect in the TL, all beginners in the present study followed the principle of the alternation hypothesis: they employed those devices that were familiar to them in the TL from their respective SL. In other words, German learners employed, although very rarely, prefixes constructing perfective verb forms; and English learners made use of suffixes forming imperfectives. Thus beginners' initial hypotheses about the TL grammar are determined by the SL grammar. Moreover, following the perceptual salience hypothesis learners know from their SL "where to look" in the structure of the TL.

---

[8] For a discussion regarding the usage of inflectional morphology by English beginners participating in the present study and their classification as *Basic Variety*, see below.

Additionally, it has been shown in the present study that the role of source language for the acquisition of the TL grammar is the strongest at the basic level of proficiency, but still plays an important role in the use of aspect at more advanced levels. In fact, as was demonstrated for the use of aspect by advanced English learners of Czech, the similarity between the source and the target language may turn out to be disadvantageous and block further development in the direction of the TL grammar. Kihlstedt (2002) observed a similar phenomenon in advanced Swedish learners of French. In her study, learners differed from native speakers in the way they applied the imparfait form in French. That is, they used it more in the "Swedish than the French way". Since the French imparfait and the Swedish preteritum are formally and functionally very similar (but not the same) it is plausible to assume that the typological proximity of the two languages was misleading for learners at the advanced proficiency level.

In summary, an important difference between English and German speakers with regard to their respective ways of dealing with the Czech aspectual system was found. German learners focus on prefixes expressing aspectual and lexical modification of the verb, while English learners mainly pay attention to those operators that only modify aspect. English speakers are, in other words, more inclined to decode the aspectual operations that take place on the right side of the verb stem: imperfectivization by the suffix *-va* and perfectivization by the suffix *-nou*.

As a consequence, English learners are able to grasp and use the opposition between perfective and imperfective sooner than German learners. This sensitivity is certainly motivated or inspired by the linguistic devices of the corresponding source language. In this sense, the data show that there is evidence that the source language is a decisive factor for learners when choosing linguistic means in the target language.

Despite the evidence provided by (1999), the alternation hypothesis is a reasonable account for the data and the findings in Jansen, Lalleman, Muysken (1981). Furthermore, since the underlying reasoning and assumptions of the AH and the PSH are virtually identical, the present study clearly supports source language influence versus, for instance, a UG driven account for (initial) L2 acquisition.

The explanation of the aspect data can be integrated into a more wide-ranging frame of literature, which also accounts for other results of this study. It holds

true that English as well as German learners of Czech rely on general learning strategies such as 'simplification' and 'inferring structure from the input' (Slobin, 1973). Although these general principles were originally developed for L1 acquisition, it has been shown that they also play an important role in L2 acquisition (e.g. Andersen 1983, White 1988, Klein & Perdue 1997). In conjunction with these general strategies, learners also follow principles that are specific to second language acquisition, such as the *transfer to somewhere principle* (Andersen, 1983). Andersen defines the transfer to somewhere principle (TTS) in the following way (1983: 178):

> A grammatical form or structure will occur consistently and to a significant extent in interlanguage as a result of transfer *if and only if* there already exists within the L2 input the potential for (mis-)generalization from the input to produce the same form or structure. [emphasis in original, B.Sch.]

In other words, this principle states, "the L1 system plays a role in shaping the interlanguage grammar" (Jordens, 2001: 71).

At the onset of acquisition, it is assumed that due to the natural process of acquisition, learners use a simplified interlanguage often lacking many features from the TL (e.g. inflectional morphology). In the case of the English learner group, this natural simplified stage of development was overidden by a positive transfer of the English aspectual opposition.

Early simplifications in the German interlanguage were reinforced by the fact that German learners did not have the option to transfer grammaticalized aspectual opposition from the source language. Instead, they transferred the adverbial style to the TL, which at first resulted in divergence from the target language and considerable differences between both learner groups.

Note that English learners at the basic proficiency level employ inflectional morphology by using aspectual marking for expressing simultaneity in Czech. Interestingly, Bartning & Kirschmeyer (2003) observed that untutored Swedish L2 learners of French also make use of inflectional morphology at the basic proficiency level. These findings are not in line with the 'Basic Variety' (BV) hypothesis (Klein & Perdue, 1997) according to which learners initially do not rely on aspectual or tense morphology but encode these properties with adverbials. Since the adverbial style is only used by German beginners and since this way is prototypical for marking simultaneity by German native speakers, it is more plausible to assume that German subjects use the same

strategy for marking simultaneity in the source and in the target language (i.e. the transfer to somewhere principle").

In this sense, the adverbial style can not be assumed to function as the general device used by all learners for expressing simultaneity in Czech. This result also does not confirm previous research on L2 acquisition of temporality (Starren 2001, Hendriks 1999, etc.). In these studies, untutored second language learners with various language backgrounds show early use of adverbials for tense and aspect marking. The adverbials may later be enriched with morphological markers if the second language learner passes a certain developmental point, namely the BV-stage. Note that these observations differ crucially from what has been shown for L1 acquisition where (unanalyzed) verb forms (before 3 years) is supplemented with later acquired adverbials (Gretsch 2003).

As mentioned above, the use of inflectional morphology by English beginners appears to be incompatible with the BV-hypothesis. However, this position is strongly dependent on the way inflectional morphology is viewed. In general, it holds true that "morphology that has semantic function is easier to acquire than if it is only structurally motivated" (Jordens, 2001: 68). In line with Booij (1994), morphology can be further classified into "inherent inflectional morphology" (semantically motivated morphology) and "contextual inflectional morphology" (syntactically motivated morphology). Snow (1976) has demonstrated the importance of such a division for second language acquisition. According to Snow, "semantically strongly-based systems" (Booij's inherent inflectional morphology) such as singular vs. plural or the English morpheme –ing are based on obvious distinctions that are important in our understanding of the world (quoted from Jordens 2001: 68). "Semantically weakly-based systems" (Booij's contextual inflectional morphology) such as grammatical gender, on the other hand, first need to be noticed before their grammatical function and distribution can be acquired (Jordens, 2001: 68). Consequently, semantically strong morphology should be acquired more easily and hence earlier than semantically weak morphology.

My findings support this prediction: learners at the basic level of proficiency use semantically strongly-based systems rather than semantically weakly-based systems. This is reflected by English learners' use of the suffix –va for deriving the imperfective aspect and the use of the suffix –nou for deriving the perfective aspect. In addition, German as well as English learners produce several perfective forms using some Czech prefixes. At the same time, another

semantically strongly-based feature is used by both beginner groups: the plural form. On the other hand, semantically weakly-based systems are virtually absent in the production of all learners at this level of proficiency. That is, person marking only appears in unanalyzed forms, nominal case marking is very restricted, and finally hardly any occurrences of noun-adjective or noun-verb agreement can be found (see also, chapter 4, section 4.3.4.1).

Assuming the twofold system for morphology classification, what is the possible "nature" of inflectional morphology in the Basic Variety? In the BV, all features that occur in learner language are syntactically weak. In other words, there are no occurrences of "inflectional morphology or complex structures, which would require some kind of movement" (Klein & Perdue, 1997: 337). As far as the use of inflectional morphology by beginners in the present study is concerned this finding is not congruent with the BV-hypothesis. However, I assume that inflectional morphology can be further differentiated into semantically strongly-based morphology (such as marking of grammatical aspect) and semantically weakly-based morphology (such as marking of grammatical gender) in the way suggested by Snow (1976) and Booij (1994). In this view, it is plausible to presume an acquisitional sequence: semantically strongly-based before semantically weakly-based morphology. The existence of such a sequence is supported by the data of my study (for similar findings, see Slobin, 1993 - for L1 acquisition of English; Tsimpli, to appear – distinguishing the treatment of 'interpretable' vs. 'uninterpretable' features by learners of L2 Greek).

One final point should be made about the use of explicit atemporal devices. It has been shown that irrespective of the source language, all learners employ explicit atemporal devices for marking simultaneity in Czech and thus deviate from the target language. However, learners differ in the 'timing' of their employment of these devices: English learners' use is higher in the beginning, while German learners mainly use atemporal devices at the advanced proficiency level. Surprisingly, the intermediate learners use atemporal devices in a qualitatively and quantitatively comparable manner. This means that these devices are used as a shared strategy by all intermediate learners. In this sense, this study also provides some support for a more general strategy adopted by learners when marking simultaneity in the target language.

8.5 Other factors

Two additional factors should be mentioned here apart from the source language influence on the use of aspect and the locational difference between Czech prefixes and suffixes, which learners can benefit when acquiring the Czech aspectual system. These are the type of language instruction on the one hand and the knowledge of other Slavic languages on the other (cf. chapter 5, section 5.2). In this section, I show that neither of these independent variables had an affect on the use of aspect by the learners studied in the current investigation.

Based on the observation that various textbooks of Czech devote a great deal of attention to the grammatical aspect, one could expect that instructed learners might have an advantage over uninstructed learners when learning how to express simultaneity in Czech. In other words, since the use of grammatical aspect is the core mean for expressing simultaneity in Czech, the type of instruction might influence learners' performance.

The underlying assumption behind the second factor is the following: One characteristic that all Slavic languages share is the presence of grammatical aspect that is morphologically marked onto the verb. Since aspectual marking represents a fundamental device for expressing simultaneity in Czech, the knowledge of another Slavic language and therefore the familiarity with an aspectual system could be beneficial to those learners who have knowledge of another Slavic language.

8.5.1 Type of language instruction

There is an equal number of *tutored* and *untutored* learners: 20 tutored and 20 untutored. To my knowledge, no textbooks used in the classroom-based teaching of Czech as a second language deal with temporal simultaneity and its linguistic expressions. Based on this observation, my null hypothesis is that there would be no significant difference between learners who received formal training (tutored learners) and those who did not (untutored learners). This holds true for the overall explicit marking of simultaneity, the emergence of explicit temporal and explicit atemporal devices. The idea behind the latter assumption is that even if one studies and practices the derivation of aspectual morphology, this knowledge does not necessarily imply that one will also be able to apply it for expressing temporal simultaneity.

As far as the present study is concerned, no significant differences were found between tutored and untutored learners in the following linguistic categories:

(a)   the overall marking of simultaneity: (χ^2 (3) = 5.4, n.s.)
      number of markings by tutored learners: N=69; number of markings by untutored learners: N=68

(b)   the explicit temporal marking of simultaneity: (χ^2 (3) = 5.4, n.s.)
      number of markings by tutored learners: N=53; number of markings by untutored learners: N=50

(c)   the explicit atemporal marking of simultaneity: (χ^2 (3) = 2.3, n.s.)
      number of markings by tutored learners: N=16; number of markings by untutored learners: N=18

In additon, no significant differences were found between tutored (number of markings: N=43) and untutored (total number of markings: N=45) learners with respect to the overall use of aspectual devices (χ^2 (3) = 6.4, n.s.). These analyses are restricted to the five testing items closely investigated throughout this study (the set of 5 - chapter 5, section 5.2). The findings are summarized in table 8.1:

	Tutored (N=100)	Untutored (N=100)
Overall explicit marking of sim.	71%	68%
Explicit temporal marking	53%	50%
Explicit atemporal marking	16%	18%
Overall use of aspectual marking	43%	45%

N = number of utterances based on five testing items; all differences are n.s.

Table 8.1   Type of instruction and the choice of linguistic devices for simultaneity marking by learners of Czech

It is apparent from table 8.1 that tutored learners do not differ in any way from untutored learners. In other words, as far as the linguistic expression of simultaneity and the oveall use of aspect are concerned, classroom-based instructions do not accelerate or in a broader sense stimulate the acquisition of this phenomenon.

As stated above, this finding is not as surprising as one might think at first. Teaching linguistic expressions of simultaneity is rather uncommon. Moreover, only one (Mluvnice čestiny, Academia 1987) out of four descriptive grammars of Czech takes up this issue at all. In this sense, it is difficult to learn to express simultaneity on the basis of a grammar book. Still, one can assume that explicit language instructions would result in overall faster acquisition of temporal

simultaneity. This means that my claims are only restricted to the specific research question addressed in the present study.

8.5.2 Knowledge of other Slavic languages

Overall, there are 28 learners who do not speak any additional Slavic language. Only 12 learners speak another Slavic language - mostly Russian, in some cases Polish and in one case Slovak.

The assumption examined here is that the knowledge of another Slavic language would simplify the acquisition of the expression of simultaneity in Czech. In other words, I suspect that a L2 transfer might be taking place (e.g. from Russian to Czech). Since all Slavic languages encode grammatical aspect by means of verbal inflection, it is plausible to assume that like in Czech, aspectual devices are also relevant for the expression of simultaneity.

On this basis, my alternative hypothesis was that learners who had acquired another or several Slavic languages before starting to learn Czech would express and mark simultaneity more often than learners with no knowledge of another Slavic language. A chi-square test indicates that the null hypothesis is correct. No significant effect can be observed in those learners who had some knowledge of Russian or any other Slavic language:

(a)   the overall marking of simultaneity: (χ^2 (3) = 1.4, n.s.),
number of markings (+)Slavic language: N=43;
number of markings (-)Slavic language: N=194

(b)   the explicit temporal marking of simultaneity: (χ^2 (3) = 4.7, n.s.),
number of markings (+)Slavic language: N=32;
number of markings (-) Slavic language: N=71

(c)   the explicit atemporal marking of simultaneity: (χ^2 (3) = 6.3,n.s.),
number of markings (+)Slavic language: N=11;
number of markings (-) Slavic language: N=23

(d)   the overall use of aspectual marking: (χ^2 (3) = 3.8, n.s.),
number of markings (+)Slavic language: N=26;
number of markings (-) Slavic language: N=62

Note that the level of proficiency in another Slavic language was not measured. However, the variance was rather big; some of the learners graduated in Slavonic studies and their spoken Russian was better than their Czech. Other learners, in contrast, spoke only rudimentary Russian and their Czech was at

the medium level of proficiency. Either way, despite this great variety, there is no significant difference between learners with and without the knowledge of an additional Slavic language. This, however, does not mean that the knowledge of another Slavic language is an advantage for a learner in other areas. For a better overview, compare the individual numbers represented as percentages in the following table (all differences are n.s.):

	Utterances by subjects with additional Slavic language	Utterances by subjects with no additional Slavic language
Overall marking of simultaneity	80%	79%
Explicit temporal marking	65%	63%
Explicit atemporal marking	13%	15%
Overall use of aspectual marking	47%	49%

Table 8.2   Learners with an additional Slavic language in comparison to learners with no additional Slavic language

In summary, these results make apparent that the expression of temporal simultaneity does not automatically follow from knowledge of the appropriate linguistic expressions (e.g. aspectual devices, adverbials) from another Slavic language. On the contrary, it suggests that learners are neither aware of explicit temporal nor explicit atemporal marking possibilities for simultaneity.

8.6 Summary

As reported in chapters 6 and 7, Czech native speakers choose to use aspectual device - alone or in combination with other lexical devices - over any other possibility for the expression of simultaneity in Czech. For this reason, it was necessary to had a closer look on how aspect is marked by native speakers and learners.

The typical way for Czech native speakers to express aspect in general is to use simplex perfective and imperfective verbs rather than their derived forms. As far as perfectivization is concerned, Czech speakers favor using prefixes over suffixes. In the simplex domain, English as well as German learners show the same trend as Czech native speakers. In the derivational domain, by contrast, English learners employ the "suffix strategy" whereas German learners prefer the "prefix strategy". This preference holds for all proficiency levels and can be partially explained by the make-up of the respective source language.

This was explained by the perceptual saliency hypothesis. The PSH suggests that learners of Czech pay attention to location of the inflectional morpheme with respect to the verb stem according to their source language knowledge. This hypothesis can account for the observation that English learners use more suffixes for perfectivization of a verb than German learners. They mainly rely on the employment of verbal prefixes. The perceptual saliency hypothesis shows in detail how non-linguistic features such as locational difference in the source language can determine learners' linguistic choices in the target language.

Other relevant factors such as tutoredness or knowledge of other Slavic languages did not influence the use of aspect by subjects that participated in this study.

In this last chapter, the core findings of the present investigation are presented, and the implications for L2 acquisition discussed. First, I summarize how native speakers of Czech, English and German express simultaneity in their mother tongue and how English and German learners at different proficiency levels mark simultaneity in Czech. I also review the findings regarding the employment of aspect in Czech L1 and Czech L2. Next, the results of this study will be interpreted in the general context of second language learning and draw conclusions with respect to second language acquisition of simultaneity. Finally, the consequences of the reported findings for the research questions formulated in chapter 1 are discussed.

9.1 The expression of simultaneity

It has been shown that simultaneity can be expressed linguistically through explicit and implicit means. The fundamental distinction between explicit temporal and explicit atemporal means turned out to be a very good classification tool that could be applied in all three investigated languages. Further, the domain of temporal devices involved language-specific marking of simultaneity whereas atemporal means were used in a similar manner in Czech, English as well as German.

The retelling task employed for eliciting explicitly marked simultaneity provided a sufficient amount of data points where speakers conveyed simultaneity by explicit temporal or atemporal means. Hence, it was possible to carry out statistical analyses on the data. Additionally, the use of the elicitation stimuli confirmed the initial observation that simultaneity is not conveyed in an explicit manner unless it is relevant enough (worth mentioning/marking) for a speaker to communicate that two situations are happening at the same time.

There are five temporal constellations constituting various simultaneity types: total simultaneity, simultaneity – overlap, simultaneity – inclusion, simultaneity – initial boundary, and simultaneity – final boundary. Speakers differentiate between these types by using different devices for their linguistic expression.

9.2 Native speakers

Native speakers of the three investigated languages crucially differ from each other in the way they express simultaneity when using explicit temporal means in their respective mother tongue.

- German native speakers mainly use adverbials when marking simultaneity in German; thus this specific pattern of marking was labeled as the adverbial style, e.g. *Er leckt Ketchup ab. In diesem Moment kommt der Bruder hinein.* 'He licks off ketchup. At this moment, his brother comes in.'

- English native speakers primarily rely on the use of aspectual marking (in the sense of aspectual contrast and aspectual juxtaposition) in combination with lexical devices such as adverbials or when-clauses. Therefore, this particular marking strategy was called the weaker aspectual style, e.g. *He is running around the corridors, in the meantime she is getting ready to go home*.

- Czech native speakers, too, mainly employ aspectual marking in the weaker aspectual style. However, in comparison to the other native groups, they also use aspect in isolation for expressing simultaneity in their own language. For this reason, the distinctively Czech pattern of marking simultaneity is the stronger aspectual style, e.g. *Tak on to slízává někdo otevře dveře*. 'So he is licking it off, somebody opens the door'.

In conclusion, aspectual marking obviously plays a central role in expressing simultaneity in Czech as well as in English (i.e. it is present in the weaker as well as the stronger aspectual style). Additionally, native speakers of both languages exhibit a preference for employing the aspectual contrast between a perfective and an imperfective verb to the aspectual juxtaposition of two imperfective verbs. German native speakers rely on the use of non-aspectual means, such as adverbials, without exception.

Although all native groups show a preference for temporal means, the differences in their usage of explicit atemporal means are considerable: German native speakers employ these means almost as often as explicit temporal means. A similar, though weaker, trend is also established in the English native data set. Czech native speakers, by contrast, use atemporal means only sporadically.

9.3 Learners

Speakers of English and German exhibit different patterns when expressing simultaneity in Czech by explicit temporal means. These patterns are particularly visible at the basic level of proficiency: German beginners employ temporal adverbials alone whereas English beginners make use of aspectual marking, mainly the stronger aspectual style. In any case, at this proficiency level, both learner groups differ from the Czech native group: German learners by "overusing" the adverbial style and English learners by "overusing" the stronger aspectual style. At the same time, English as well as German beginners' simultaneity marking in Czech is similar to marking in the respective source language.

At the medium level of proficiency, learners of both source languages employ all three possible ways for marking simultaneity in the target language: the stronger aspectual style, the wekaer aspectual style, and the adverbial style. Nevertheless, the preference of each learner group found at the basic level of proficiency is maintained: English intermediate learners choose the simple aspectual style while German intermediate learners favor the adverbial style. Additionally, the use of the adverbial style by the English intermediate group is minimal.

At the advanced level of proficiency, the distribution of the three ways in the German data are very similar to that in the target language although German advanced learners still make use of the adverbial style more frequently than Czech native speakers. The picture of the English advanced group on the other hand, looks different: English advanced learners use only the two ways based on aspectual marking: the stronger aspectual style and the weaker aspectual style. The adverbial style is completely absent in their data set.

In conclusion, German beginners mark simultaneity in a way that is very rare in the target language, while English beginners' use of aspectual marking is similar to that of the target language. At the medium level of proficiency, both learner groups become more target like by employing all three possibilities for explicit simultaneity marking in Czech. The crucial difference in the acquisitional pathways between English and German learners is apparent at the advanced proficiency level: German advanced learners' performance is comparable to that of the Czech native group but English learners differ from the target language use by neglecting one possible marking way completely. Compared to intermediate English learners, English advanced learners only

develop linguistic expressions of simultaneity in two out of three possible styles and hence deviate from the Czech native speakers.

Another pattern was found in the domain of explicit atemporal means. In general, it holds true that if learners make use of these means, they differ qualitatively (i.e. no co-occurrence with aspectual marking) as well as quantitatively from the Czech native group. The two learner groups are strikingly different with respect to the point in the acquisitional course where atemporal means are employed. English learners use them only at the basic and intermediate proficiency levels whereas German learners employ atemporal means exclusively at the intermediate and advanced proficiency levels. The reason may be due to the early use of temporal adverbials affecting the employment of atemporal means by German but not by English learners.

Similar to the developmental tendency outlined above, those results also show that English and German learners of Czech follow distinct pathways when acquiring the expression of simultaneity in Czech: at the onset, German learners are very different from the target language because they only use temporal adverbials for expressing simultaneity. However, at the more advanced proficiency levels, they also make use of other options. English learners, on the other hand, are closer to the target language at the onset and in the middle of their acquisition and are more inclined to diverge from it at the advanced proficiency level. These findings resemble Slobin's (1985) work on first language acquisition, where he noted that young children first hyper-correct their satellite-framed/verb-framed language style. In the later course of acquisition, they return to more moderate adult use. This explanation could also be applied to the data of the advanced English learner group in this study: learners first locate the distinctive patterns of the TL (beginners and intermediate learners) and then overuse a particular strategy for a period. Considering the sample size and the character of the data (experimental as opposed to longitudinal), it is difficult to draw any conclusions about this here. Nevertheless, the similarity between Slobin's findings and the trends observed here are remarkable.

What I also find particularly interesting, is the finding that both learner groups converge at the intermediate level of proficiency by using atemporal means for marking simultaneity more frequently and differently from what is normally the case in the target language.

As far as the type of aspectual constellation - either aspectual contrast or aspectual juxtaposition - is concerned, English learners favor employing aspectual juxtaposition overall while German learners prefer aspectual contrast. In this manner, English learners do not only deviate from Czech but also from English native speakers because they both prefer using aspectual contrast to juxtaposition. The choice of a particular aspectual constellation is linked to the type of aspect learners prefer to construct. While English learners derive more imperfective aspect and, hence, frequently use aspectual juxtaposition, German learners form perfective aspect and therefore employ aspectual opposition most of the time. This observation brings us to the overall use of aspect.

9.4 The use of aspect

The use of aspectual marking is fundamental for Czech native speakers to express temporal simultaneity in their own native language. In other words, despite the existence of other possibilities – e.g., the use of explicit atemporal means or the adverbial style – Czech native speakers rely on the use of aspectual means when expressing simultaneity in Czech. This finding stimulated a closer investigation of preferred marking of aspectual forms by the three groups.

It has been established on the basis of Czech native speakers' production of aspectual forms that simplex forms are used more frequently than derived forms. In general, this holds true for perfective and imperfective aspect but the simplex imperfective form is even more common than the simplex perfective form in the data. The distribution of derived perfective and derived imperfective is equal in the Czech native data set.

No differences were found among learners in the domain of simplex forms. However, in the derivational domain, English learners clearly overused[1] the derived imperfective form while German learners went in the opposite direction by overusing the derived perfective form. Note that German learners

---

[1] The term 'overuse' refers to a very extended use of a certain device - such as the perfective or the imperfective aspect - by learners in the TL compared to the baseline of the native speakers' use. This can lead in some instances not only to quantitative, but also to qualitative differences between learners' and native speakers' use of aspect. For example, learners construct aspectual forms that are not grammatical in the TL (i.e. wrong forms) or make use of correct forms in an unsuitable context which often results in stylistic inappropriateness (i.e. wrong function).

form the perfective aspect mainly by means of prefixation whereas English learners employ suffixation. These three patterns are observed at all levels of proficiency.

The differences in aspect use by learners in the target language appear to be motivated by the system of the respective source language: English learners of Czech use derived imperfectives mainly because English has a complete grammatical marked form for the expression of the imperfective aspect - the suffix *-ing*. German learners, on the other hand, go for the derivation of the perfective aspect by means of prefixation in Czech because German has a wide range of verbal prefixes that, like Czech prefixes, change the lexical meaning of a verb and can also have a perfective meaning (cf. Bardovi-Harlig & Bergstrom, 1996).

This takes us to the nature of the Czech aspectual system. As outlined in chapter 2, the Czech aspectual system is neither grounded in the formal distinction between perfective and imperfective aspect (i.e. only a restricted set of verbs can form the aspectual pairs) nor in specific meaning characteristics (such as complete vs. incomplete). As a result, this system appears to consist of more irregularities than regularities. In fact, this is partially reflected in the learner data because learners only rarely form aspectual pairs.

Nevertheless, both learner groups acquired Czech aspect and employed it for simultaneity marking in a target like manner (despite some form-function mismatches). This observation implies that learners also rely on other than aspectual information when acquiring aspectual morphology in the target language. I propose the perceptual saliency hypothesis (PSH) that is based on locational differences between the operations for perfectivization (left and right side of the verb stem) and imperfectivization (left side of the verb stem) in Czech. The essence of the PSH is that learners take advantage from locational simlarities between the target and the source language. This hypothesis is supported by the finding that German learners mainly use prefixes (left side of the verb stem) and not suffixes (right side of the verb stem) for deriving perfective aspect in Czech.[2] In line with the overall aspect use, this locational effect is motivated by the make-up of the source language.

---

[2]The mere modification of aspect by Czech prefixes is rather uncommon compared to modification of lexical meaning, which is more often the default case. In this sense, Czech and German prefixes show striking similarities. This observation might shed a

The perceptual saliency hypothesis follows the same reasoning as the 'alternation hypothesis' proposed for acquisition of word order in L2 Dutch by Jansen, Lalleman, and Muysken (1981): selection of the L2 option (most) corresponding to the L1. Additionally, by taking advantage of perceptual saliency, second language learners follow some universal learning strategies such as Slobin's (1973) 'operating principles'. Although these general principles were originally developed for L1 acquisition, it has been shown that they also play an important role in L2 acquisition. The difference, however, is that Slobin's principles are purely "cognitive" while the principles used by learners in this study are "language-driven".

In the final step, the well-known issue about the acquisition of tense and aspect should be addressed. On the basis of the data, nothing can be claimed about the acquisitional sequence of these two categories. It holds true, though, that in a non-finite Czech verb, aspectual information need not be marked by morphological means (e.g. in simplex verb forms, aspect is conveyed lexically). Tense on the other hand, must be marked by means of verbal morphology. A plausible prediction which might follow from this observation is that aspect is acquired before tense in Czech (for a comprehensive review, cf. Andersen & Shirai, 1996). However, this was not examined in this study. What could be found in the data is that the perfective verbs used in the present tense do not necessarily have a future tense reading. Czech native speakers employ perfective verbs in the present tense, which refer to the present (here-and-now interpretation). This finding conflicts with the future tense interpretation traditionally assigned to Czech perfective verbs in non-past contexts (cf. chapter 3, section 3.1.1).

In summary, the foregoing analysis shows that English learners are more sensitive to the basic principles of the Czech aspectual system at the start of their acquisition. However, on the basis of these results, it can not be concluded that this sensitivity is (completely) absent in German learners. German learners at more advanced proficiency levels are aware of the existence of imperfective aspect (used in appropriate contexts) as well as the derivational principle of imperfectivization. Nevertheless, they focus on perfective derivation and on prefixation in particular. This is reflected in their initial inability to mark temporal simultaneity in Czech by means of the stronger aspectual style. Note

---

new light on the aspectual contribution of Czech prefixes and hence the function of the Czech aspectual system.

that regardless of this initial inability, despite traditional beliefs (for example, Grekhova 1985), German learners can derive perfective as well as imperfective aspect.

9.5 The initial research questions

In this last section, the focus will be on the discussion of the three research questions formulated in chapter 1. On the basis of the findings, I answer each of those questions. For convenience, the three central questions of this study are repeated here:

(1)   Is it easier for English learners than for German learners to use Czech aspect in the expression of simultaneity? This seems a natural assumption: after all, they are used to the idea of marking temporality by aspect.

(2)   Are English learners misled by the differences in the way in which aspect is marked? It may well be that German learners, though not familiar with the idea of grammaticalized aspect, have a less biased view of this device. Hence, the apparent advantage of English learners might turn out to be a disadvantage.

(3)   How do these categories interact with temporal adverbials when a complex narrative task, in which the expression of simultaneity is crucial, has to be solved? German learners, for example, might have a preference for using adverbials when it is important to mark the precise temporal relationship between two situations.

The simple answer to question **(1)** is *yes*, it is easier for English than German learners to use Czech aspect. Yet, the picture changes when we consider the linguistic choices learners at different levels of proficiency made when expressing simultaneity in the target language. This is especially apparent when looking at the difference between German and English beginners on the one hand, and German and English advanced learners on the other.

English beginners made use of aspectual marking, in particular aspectual juxtaposition, for expressing simultaneity in the target language. This suggests that these learners are able to detect the basic opposition between the perfective and imperfective form. Since English subjects are familiar with such a opposition from their source language, they can make use of this knowledge in the target language from early on. This is mainly reflected by the fact that

English learners at the basic level of proficiency employ the stronger aspectual style when expressing simultaneity in Czech. To mark simultaneity in this manner is simple, highly efficient, informative and also target language appropriate.

No occurrences of aspectual marking could be found in the data from the German beginners. They exclusively relied on the adverbial style for expressing temporal simultaneity in the target language. As in the case of the English beginner group, this choice was inspired by the nature of the source language. However, German beginners, as opposed to English beginners, hardly ever express simultaneity in their retellings at all. This suggests that using adverbials for simultaneity marking in Czech is not as efficient as employing aspectual means.

As a result, English beginners have an advantage over German beginners because they can access the aspectual opposition and use it as the fundamental building block for expressing simultaneity in Czech. In other words, *initially* it is easier for English than for German learners to express simultaneity in Czech.

At the same time, features known from the source language can also hinder the acquisition of the target language. This brings us to the answer to question **(2)**: Can learners be misled by the resemblance between features of their respective source language and the target language? Two interesting observations can be made with respect to the English advanced learners: (a) they "overuse" the imperfective aspect, and (b) "underuse" the adverbial style. In this manner, English advanced learners deviate from the target language. German advanced learners, on the other hand, show a more balanced trend: they employ all three ways for expressing simultaneity and thus follow the pattern found in Czech native speakers. This also holds true for the domain of aspect derivation: German advanced learners still use more prefixes for deriving perfective verbs than Czech native speakers; with respect to the derivation of the imperfective aspect, however, German advanced learners and Czech native speakers are comparable. Overall it can be said that at the advanced level of proficiency, German learners are closer to the target language than English learners.

In conclusion, the answer to the second question is *positive*: German learners' initial lack of knowledge about grammaticalized aspect and its employment for expressing simultaneity enables them to achieve a more advanced level of proficiency than English learners. In other words, German advanced learners in this study are more 'near-native' than English learners at the same level of

proficiency[3]. This suggests that due to the strong resemblance between the SL and the TL, English learners stay attached without further adaptations to their initial hypotheses about the TL grammar. German learners, by contrast, who must assume from the beginning that there are more differences than similarities between the SL and the TL, are rather able to revise their initial hypotheses and make less source-language biased choices at later stages of acquisition. This finding shows that typological proximity is not necessarily beneficial at all stages of acquisition.

Question **(3)** was concerned with the interaction between linguistic devices for expressing simultaneity. It has been clearly shown that in the domain of explicit temporal means, German learners at all proficiency levels prefer the use of adverbials – either in isolation (the adverbial style) or in combination with aspectual devices (the weaker aspectual style) - when they are requested to mark precisely temporal relationships between two events. English learners also display a very specific linguistic preference in such situations by employing aspectual devices either alone or in combination with lexical devices, but to a lesser extent compared to the German group.

Concisely, this study provides evidence for language transfer, in particular for the 'transfer to somewhere principle' (TTS). The grammatical system of the first language decides whether and how easily certain linguistic features of the second language will be acquired. This particularly affects aspect encoding: features of the source language are transferred and persistently used in the target language. These strategies are rooted in the grammaticalized linguistic structures that are language specific. However, strong typological resemblances between the source and the target language can be misleading for learners at more advanced proficiency levels. In second language acquisition, the value of the typological similarity between a source and a target language follows the law of diminishing returns.

---

[3] The assessment of the proficiency level is related to non-grammatical deviations from the target language. The amount of these deviations is comparable by all advanced learners in the present study. This means that the observed difference between German and English advanced learners is of a qualitative rather than quantitative nature.

MATERIALS

Stimulus description — the set of five

(1)   Commercial *Poster*

The length of this movie is 35 seconds. It was presented in its original form (no prior editing).

A young boy comes home and is hungry. He goes to the kitchen to make a hot dog for himself. Then, he goes upstairs to his room to eat it. When he bites into the hot dog, a glob of sauce squirts onto a poster hanging on the wall. The poster features a young woman wearing only jeans and a bikini top. The young boy likes the sauce so much that, after some hesitation, he goes to the poster, puts his hands on the young model's breast and starts licking off the delicious sauce. At this moment, another boy, perhaps his older brother, comes in and sees him performing this odd activity. He starts laughing and gives him some signs. The young boy is embarrassed and that is the end. Backround music, no speech.

The relevant scene of this commercial stimulus is the situation where the older brother opens the door and sees the young boy licking the sauce off the poster. The event of seeing/smiling (event I) and the event of licking (event II) are simultaneous. The stimulus roughly corresponds to the type of simultaneity defined previously as overlap.

(2)   Commercial *Pointer*

The length of this movie is 37 seconds. It was presented in its original form (no prior editing).

A young man is working late in a an office tower with lots of windows. Suddenly, he spots a young woman outside. She is closing down her flower shop for the day. While she is doing so, he is running around in the building switching on lights in different offices. After a while, he returns to the office from which he originally started. He looks outside the window and sees that the girl has left in the meanwhile. Disappointed, he goes to the fridge and takes out a refreshing drink. Then he takes a look out of the window again and suddenly sees the woman. She is going home with her bike. He knocks on the window to catch her attention. At this moment, she looks up and sees that the lights he turned on form a big arrow pointing directly to the window where the young

man is standing. She smiles at him and he is happy. Background music, no speech.

The onset of the relevant part in this movie is when both protagonists begin to perform their respective activities: her closing down the flower shop (event I); his turning on lights in the office building (event II). Event I and event II are simultaneous. The type of simultaneity that is depicted here is comparable to the one defined previously as simultaneity - initial boundaries coincide.

(3)   Commercial *Fire*

The length of this movie is 30 seconds. It was presented in its original form (no prior editing).

On the right side of a split screen, there is a white plastic phone; on the left side is a red fire truck. For a while, not much is happening. Some noises are coming from the background. Then suddenly, the phone begins to melt and there are some flames coming from underneath. Simultaneously, on the right side of the screen a fireman comes into view. He climbs into the fire truck, takes out a newspaper, and walks away. At the same time, the white phone is completely taken over by flames. A warning written in three languages appears that people should be aware of the fire danger while sleeping at home. No background music, only some background noises.

In this stimulus, the analyzed scene depicted the burning phone (event I) and the fireman getting the newspaper (event II). Event I is an ongoing event covering the largest part of the movie. Event II, on the other hand, is defined clearly by two boundaries: the appearance of the fireman (initial boundary) and the disappearance of the fireman (final boundary). In other words, event II is bounded. In this manner, matches approximately the temporal relation previously defined as 'inclusion'.

(4)   Commercial *Formula*

The length of this movie is 19 seconds. It was presented in its original form (no prior editing).

A man is sitting on a large black sofa watching TV while a pit-stop crew from a Formula 1 team changes the sides of the sofa. Then the name Canal plus appears on the screen. Background sound of Formula 1 racing, no speech.

The two events co-occurring in this stimulus are a man sitting on a sofa watching TV (event I); the pit-stop crew changing the sides of the sofa (event

II). The best fitting temporal relation is that of 'total simultaneity'. In other words, the final and initial boundaries of event I and event II coincide totally.

(5)   Commercial *Geysers*

The length of this movie is 55 seconds. It was presented in its original form (no prior editing).

An elderly couple is traveling around the USA taking pictures of themselves in interesting places such as Las Vegas. At one point, they are sitting in their camping van drinking coffee and putting up their pictures onto a pin wall. Suddenly, the coffee cup starts to shake. They look outside the window and see that there is a geyser sprouting out of the earth. They run outside because they want to take a picture of themselves in front of the geyser. While the man is setting up the camera, the woman has to jump aside because a second geyser is coming out. They are then standing in front of the two geysers waiting for the timer to take the picture. While they are standing there, the viewer gets to see a stone sign saying 'The three geysers of Chatwakan'. This sign, however, remains unknown to the travelling couple. The last geyser is about to come out exactly where they parked they camping van. The allusion is that while the third geyser is destroying the camper van, a picture of the couple is being completed. Background music, no speech.

The focus, in this rather complex movie, was on the last part of the movie where the action of taking a picture via an automatic timer (event I) is taking place simultaneously with the eruption of the third geyser (event II). In this manner, this scene is an approximation to the type of simultaneity defined previously as 'simultaneity - final boundaries coincide'.

Stimulus description - remaining stimuli

(6)   Commercial *Dress*

The length of this movie is 28 seconds. The clip was presented with two modifications. It was slowed down and shown without sound.

A young woman is sitting on a sofa and is bored. Suddenly, another young woman walks in. She's got a bag from which she takes out a new dress and holds it up in front of the other girl who is obviously envious. The girl on the sofa tries on the new dress when the other one goes to bed and heads off to a party. When she comes home and takes off the dress, she realizes that it smells musty. She does not know what to do. She throws the smelly dress onto the

sofa where there is a cuddly teddy bear. The dress lands on the teddy bear and it wakes up and just happens to be sitting next to some kind of spray, which is obviously some sort of spray to get rid of odor in fabrics. The bear sprays the dress. The girl who was partying all night comes back, picks up the dress again and sniffs it. The dress does not smell musty any more. She immediately puts it back while her flatmate is still sleeping. In the very last shots of the of the clip, the other girl is waking up and puts on her new dress without noticing a thing.

(7)   Commercial *Swing*

The length of this movie is 20 seconds. It was presented in its original form (no prior editing).

A girl in a dress is on a swing. She is swinging backwards and forwards and she has got a mobile phone in her hand. There is also someone on the next swing swinging backwards and forwards. Towards the end of the clip, the name of a phone company appears in the middle of the screen. No speech, only background music.

(8)   Commercial *Fish*

The length of this movie is 20 seconds. It was presented in its original form (no prior editing).

Somebody is preparing a meal. The person is washing vegetables and chops up a fish on a cutting board. At the same time, there is a cat watching all of this with a piqued interest. As the person chops more vegetables, the cat quickly snatches a slice of the cut fish. When the person comes back, he does not notice and just pushes the rest of the fish together again. This happens several times. In the end all that is left is the head and the tail and a cat looking quite content. Background music, towards the end of the clip, a female voice says two sentences in Dutch.

(9)   Commercial *Soup*

The length of this movie is 17 seconds. It was presented in its original form (no prior editing).

A young boy is sitting on his bed reading a paper and eating some soup. At the same time, he is watching television. Although we cannot see the TV screen, it is obvious what he is watching because we can hear the sound of a game of tennis in the background. As he is eats his soup, he slurps and each time he slurps the umpire says *Quiet please* in English. This happens several times until

the young boy starts looking suspiciously at the TV set. In the end, he consumes a spoonful of soup silently and the umpire on the TV says *Thank you* in English.

(10)   Commercial *Proposal*

The length of this movie is 25 seconds. It was presented in its original form (no prior editing).

Two women are sitting in a restaurant and one of them receives a video conference call on her mobile phone. The call is from her boyfriend, who is calling to say that he will to be a bit late tonight. The video stream on her mobile phone shows us the reason he will be late is that he is in the free fall phase of a parachute jump. The young woman is very impressed by this. She kisses his image on her phone at which point he pulls the string on his parachute which unfolds to reveal a sign saying *Marry me*. She sends him a text message back *Yes* and he is absolutely delighted. Background music, no speech.

(11)   Commercial *Shopping*

The length of this movie is 28 seconds. It was presented in a slightly modified version without sound.

A woman is shopping in a supermarket. She sees a pyramid-shaped stack of merchandise on sale as she passes by with her cart and quickly proceeds to take as much of the product as she can into her cart. An amused young store employee is watching her. He turns away to fix some of the other stacks and when he turns back she has already piled in all into her cart. As the young women heads to the cashier, he is waves some kind of coupon. Then one of the products falls from the cart onto the floor and the young man picks it up and smiles at the shopper.

The original text of the quotes (chapter 2, section 2.5)

V češtině vystupuje většina sloves ve dvou nebo třech podobách, které se mezi sebou neliší základním slovním významem, ale liší se videm […]. (Petr et al. 1987: 179)

Slovesným videm (aspektem) rozumíme ten fakt, že české sloveso existuje ve dvou (až třech) podobách, které mají stejný lexikální význam, ale odlišují se od sebe vztahem k završenosti (ukončenosti) děje.   (Karlík et al. 1995: 318)

REFERENCES

Andersen, R. (1983). Transfer to somewhere. In Gass, S.M. & Selinker, L. (Eds.) *Language Transfer in Language Learning*. Rowley, Mass; Newbury House; 177-201.

Andersen, R. & Shirai, Y. (1996). The primacy of aspect in first and second language acquisition: The pidgin-creole connection. In Ritchie, W. & Bhatia, T. (Eds.), *Handbook of second language acquisition*. New York/London; Academic Press; 527—570.

Ahrenholz, B. (1998). *Modalität und Diskurs: Instruktionen auf deutsch und iatlienisch. Eine Untersuchung zum Zweitspracherwerb und zur Textlinguistik*. Stauffenburg; Tübingen.

Aksu-Koç, A. & von Stutterheim, Ch. (1994). Temporal relations in narrative: simultaneity. In Berman, R. A. & Slobin, D. I. (Eds.), *Relating Events in Narrative: A Crosslinguistic Developmental Study*. Hillsdale, NY; Lawrence Erlbaum; 393-456.

Bachman, L. & Palmer, A. (1985). *Basic concerns in language test validation*. Reading, MA; Addison-Wesley.

Bailey, N., Madden, C. & Krashen, A. (1974). Is there a "natural sequence" in adult second language learning? *Language Learning* **21**; 235-243.

Bardovi-Harlig, K. & Reynolds, D. (1995). The Role of Lexical Aspect in the Acquisition of Tense and Aspect. TESOL Quarterly **29** (1); 107-31.

Bardovi-Harlig, K. & Bergstrom, A. (1996). Acquisition of tense and aspect in second language and foreign language learning: learner narratives in ESL and EFL. *CMLR* **52**; 308-330

Bardovi-Harlig, K. (2000*). Tense and Aspect in Second Language Acquisition: Form, Meaning, and Use*. Oxford, UK; Blackwell.

Bartning, I. & Kirschmeyer, N. (to appear). Le développement de la compétence textuelle à travers les stades acquisitionnels en Français L2. In *AILE* **19**.

Becker, A. & Carroll, M. (1997). *The Acquisition of Spatial Relations ion in a second language*. Amsterdam; Benjamins.

Behrens, H. (2003). Verbal prefixation in German child and adult language. *Acta Linguistics Hungarica* **50** (1-2); 37-55.

Bertinetto, P. M. [et al.] (Eds.). *Semantic and syntactic perspectives*. Torino; Rosenberg & Seiler; 43-54.

Bohnemeyer, J. (1998a). Time relations in discourse. Evidence from a comparative approach to Yukatek Maya. Doctoral dissertation, Tilburg University.

Bohnemeyer, J. (1998b). Temporal reference from a radical pragmatics perspective: Why Yucatec does not need to express 'after' and 'before'. In *Cognitive Linguistics* **9-3**; 239-282.

Bohnemeyer, J. (2000). Event order in language and cognition. In Hoop, H. de [et al.] (Eds.), *Linguistics in the Netherlands*. Amsterdam; Benjamins; 1-16.

Bohnemeyer, J. (2002). *The grammar of time reference in Yucatek Maya*. Munich; Lincom.

Booij, G.E. (1994). Against split morphology. In Booij, G.E. & van Marle, Y. (Eds.) *Yearbook of Morphology 1993*. Dordrecht; Kluwer; 27-50.

Buczowska, E. & Weist, R. M. (1991). The effects of formal instruction on the second-language acquisition of temporal location. *Language learning* **41**; 535-554.

Bybee, J.(1992). Entry on tense and aspect. In Bright, W. (Ed.), *International Encyclopedia of Linguistics*. New York (etc.); Oxford University Press; 144.

Canale, M. & Swain, M. (1980). Theoretical bases of communicative approaches to second language teaching and testing. *Applied Linguistics* **1**; 1-17.

Carroll, M. [et al.] (2000). The relevance of information organisation to second language acquisition studies: the descriptive discourse of advanced adult learners of German. In Perdue, C. (Ed.), *Studies in Second Language Acquisition* **22/3**, special issue; 441-466.

Chomsky, N. (1981). *Lectures on Government and Binding*. Dordrecht: Foris.

Clark, H. H. (1974). Semantics and comprehension. In Abramson, A.S. [et al.] (Eds.), *Linguistics and adjacent arts and sciences 2*. The Hague; Mouton; 1291-1428.

Cohen, J. (1977). *Statistical Power Analysis for the Behavioral Sciences*. New York; Academic Press.

Comrie, B. (1976). *Aspect*. Cambridge, UK; Cambridge University Press.

Comrie, B. (1985). *Tense*. Cambridge, UK; Cambridge University Press.

Comrie, B. (1995). German perfekt and Präteritum. In Palmer, F. R. (Ed.), *Grammar and meaning*, Cambridge, UK; Cambridge University Press. P. 148-161

Cummins, J. (1980). The cross-lingual dimensions of language proficiency: implications for bilingual education and the optimal age issue. *TESOL* Quarterly **14**;175-88.

Cummins, J. (1981). Age on arrival and immigrant second language learning in Canada: a reassessment. *Applied Linguistic*s **2**; 132-49.

Cummins, J. (1993). Bilingualism and second language learning. *Annual Review of Applied Linguistics* **13**; 51-70.

Declerck, R. (1989). Boundedness and the Structure of Situations. *Leuvense Bijdragen* **78**; 275-308.

Declerck, R. (1991). *Tense in English: its structure and use in discourse*. London (etc.), U.K.; Routledge.

Depraetere, I. (1995). The effect of temporal adverbials on (a)telicity and (un)boundedness. In Bertinetto, P. M. [et al.] (Eds.), *Temporal reference and aspect and actionality*. Volume 1, Torino; 43-54.

Dietrich, R., Klein, W. & Noyau, C. (1995). *The acquisition of temporality in a second language*. Amsterdam; Benjamins.

Dimroth, Ch. (2002). Topics, assertions and additive words. *Linguistics*, **40**; 891-923.

Ehrich, V. (1992). *Hier und jetzt*: *Studien zur lokalen und temporalen Deixis im Deutschen*. Niemeyer; Tübingen.

REFERENCES

Eisenberg, P. (1986). *Grundriss der deutschen Grammatik*. Metzlersche Verlagsbuchhandlung; Stuttgart.

Engel, U. (1988). *Deutsche Grammatik*. Heidelberg; Groos.

Ervin, G. (1979). Communication strategies employed by American students of Russian. *Modern Language Journal* **63**; 329-34

Filip, H. (2001/December). *Aspect, Eventuality Types and NP Semantics in Slavic languages*. Paper presented at Perspectives on Aspect. Conference at the University Utrecht; The Netherlands.

Filip, H. & Carlson, G.H. (1997). "Sui Generis Genericity". *Penn Working Papers in Linguistics*, Volume 4 (Proceedings of the Twenty-First Annual Penn Linguistics Colloquium). Philadelphia: The University of Pennsylvania; 91-110.

Giacalone Ramat, A. (1992). Grammaticalization processes in the area of temporal and modal relations. *Studies in second language acquisition* **14**; 297-322.

Giacalone Ramat, A. (1995). Iconicity in grammaticaliztion processes. In Simone, R. (Ed.) *Iconicity in language*, Amsterdam; Benjamins; 119-139.

Grekhova, Y.I. (1985). Typical mistakes in the use of Russian aspect made by German speakers. In Maslov, Y.S. (Ed.), *Contrastive studies in verbal aspect*. Heidelberg; Groos; 143-153.

Gretsch, P. (2003). On the similarities of L1 and L2 acquisition: How German children anchor utterances in time. In: Dimroth, C. & Starren, M. (Eds.), *Information structure, linguistic structure and the dynamics of language acquisition*. Amsterdam: Benjamins; 95-117.

Grice, H.P. (1975). Logic and conversation. In Cole, P. & Morgan, J. (Eds.), *Syntax and Semantics* **9**. New York; Academic Press; 41-58

Haspelmath, M. (1997). *From Space to Time: Temporal Adverbials in the World's Languages*. München-Newcastle; Lincom Europa.

Heinämäki, O.T. (1974). Semantics of English temporal connectives. Unpublished Ph.D. dissertation, University of Texas at Austin.

Helbig, W. & Buscha, J. (2001). *Deutsche Grammatik. Ein Handbuch für den Ausländerunterricht*. München; Langenscheidt.

Hendriks, H. (1998a) Reference to person and space in narrative discourse: a comparison of adult second language and child first language acquisition. *Studi Italiani di Linguistica Teorica e Applicata* **27**; 67-86.

Hendriks, H. (1998b). Comment il monte le chat? En grimpant! L'acquisition de la référence spatiale en chinois, français et allemand LM et LE. *Acquisition et Interaction en Langue Etrangère* **11**; 147-190.

Hendriks, H. (1999). The acquisition of temporal reference in first and second language acquisition: what children already know and adults still have to learn and vice versa. *Psychology of Language and Communication*, **3** (1); 41-59.

Hendriks, H. (2000). The acquisition of topic in Chinese L1 and French L1 and L2. In *Studies in Second Language Acquisition* **22** (3); 369-397.

Hickmann, M. (1987). The pragmatics of reference in child language: some issues in developmental theory. In M. Hickmann (Ed.), *Social and functional approaches to language and thought*. Orlando; Academic Press; 165-184.

Hinkle, D. E. & Wiersma, W. & Jurs S. G. (1988). *Applied Statistics for the Behavioral Sciences*. Boston. MA; Houghton Mifflin Company.

Housen, A. (2000). Verb semantics and the acquisition of Tense-Aspect Morphology in English. *Studia Linguistica* **54** (2); 249-259.

Huddleston, R. (1995). *English Grammar*. Cambridge, UK; Cambridge University Press.

Jansen, B., Lalleman, J.A., & Muysken, P. (1981). The Alternation Hypothesis: acquisition of Dutch word order by Turkish and Moroccan foreign workers. In *Language Learning* **31** (2); 315-336.

Jordens, P. (2001). Constraints on the shape of second language learner varieties. In *IRAL* **39** (1); 51-74.

Kamp, H. and Reyle, U. (1993). *From discourse to logic*. Dordrecht; Kluwer Academic.

Karlík, P. [et al] (1995). *Příruční mluvnice češtiny*. Praha; Lidové noviny.

REFERENCES

Kellerman, E. & Sharwood Smith, M. (Eds.) (1986). *Cross-linguistic influence in second language acquisition*. Oxford; Pergamon Press.

Kellerman, E. (1995). Transfer to nowhere. In W. Grabe (Ed.), *Annual Review of Applied Linguistics* 15; 161-176.

Kihlstedt, M. (2002). Reference to past events in dialogue: The acquisition of tense and aspect by advanced learners of French. In Salaberry, R. & Shirai, Y. (Eds.), *Tense aspect morphology in L2 acquisition*. Amsterdam; Benjamins; 323-362.

Klein, W. (1993). The acquisition of temporality. In Perdue, C. (Ed.), *Adult language acquisition: Cross-linguistic perspectives*. Cambridge, UK; Cambridge University Press; 31-70.

Klein, W. (1994). *Time in language*. London; Routledge.

Klein, W. (1995). A time-relational analysis of Russian aspect. *Language* **71**; 669-695.

Klein, W. & Perdue, C. (1997). The Basic Variety (or: Couldn't natural language be much simpler?). *Second Language Research* **13**; 301-347.

Klein, W. (2000). An analysis of the German perfect. *Language* **76**; 358-383.

Labov, W. (1972). *Language in the inner city*. Oxford, UK; Blackwell.

Lalleman, J.A. (1999). The Alternation Hypothesis revisited: early L2 intuitions about the direction of gapping in Dutch. In *Aile*, Volume 2, special issue; 157-172.

Landis, J. R. & Koch, G. G. (1977). The measurement of observer agreement for categorical data. In *Biometrics* **33**; 159-174.

Levinson, S. C. (2000). *Presumptive meanings: the theory of generalized conversational implicature*. Cambridge, MA; MIT Press.

Moens, M. (1997). *Tense, aspect and temporal reference*. Edinburgh: University of Edinburgh.

Munro, J. K. & Wales, R. J. (1982). Changes in the Child's Comphrehension of Simultaneity and Sequence. *Journal of Verbal Learning and Verbal Behavior* **21**; 175-185.

Murcia-Serra, J. (2001). *Grammatische Relationen im Deutschen und Spanischen*: eine empirische Untersuchung zur Rolle der einzelsprachlichen Form bei der Konzeptualisierung von Äußerungen im Text, Frankfurt am Main (u.a.); Lang Verlag.

Ogihara, T. (1999), Tense and Aspect. In Tsujimura, Natsuko (Ed.), *The Handbook of Japanese Linguistics*. Oxford, UK; Blackwell; 326-348.

Oller, J. (1981), Language as intelligence? *Language Learning* **31**; 465-92.

Odlin, T. (1989). *Language transfer: Cross-linguistic influence in language learning*. Cambrige, UK: Cambridge University Press.

Perdue, C. (Ed.). (1982). *Second language acquisition by adult immigrants. A field manual*. Strasbourg, France, European Science Foundation.

Petr, J. [et al.] (1987). *Mluvnice češtiny. Skladba*. Praha; Academia.

Quirk [et al.] (1985). *A comprehensive grammar of the English language*. London; Longman.

Reichenbach (1947). *Elements of Symbolic Logic*. Berkeley, University of California Press.

Robison, R. (1990), The primacy of aspect: aspectual marking in English interlanguage. *Studies in Second Language Acquisition*, **12**; 315-330.

Schmiedtová, B. (2001/August). *Temporality in second language acquisition: the case of simultaneity* [poster]. Tutorials in Behavioural and Brain Sciences. Nijmegen, The Netherlands.

Schmiedtová, B. & Gretsch, P. (2002/July). *Childrens' understanding of simultaneity and sequentiality*. Paper presented at the 9th Congress for International Association for the Study of Child Language (IASCL). Madion, WI; USA.

Schmiedtová, B. (2003). The use of aspect in Czech L2. In Bittner, D., Gagarina N. (Eds.) *ZAS Papers in Linguistics*, Volume **29**, July 2003; 177-194.

Schmiedtová, B. (2004). Aspekt und Tempus im Deutschen und Tschechischen: eine vergleichende Studie. In Höhne, S. (Ed.) *Germanistisches Jahrbuch Tschechien - Slowakei: Schwerpunkt Sprachwissenschaft*. Lidové noviny, Praha; 181-212.

Schulz, P. & Penner, Z. (2002). How you can eat the apple and have it too: Evidence from the acquisition of telicity in German. In Cost, J. & Freitas, M.J. (Eds.) *Proceedings of the GALA 2001 conference on language acquisition*; 239-246.

Shirai, Y. (1998). Where the progressive and the resutltative meet - a typology of imperfective morphology in Japanese, Korean, Chinese and English. In Norika Akatsuka [et al.] (Eds.), *Japanese/Korean linguistics*, Stanford, CA; CSLI; 257-274.

Shirai, Y. & Kurono, A. (1998). The acquisition of tense-aspect marking in Japanese as a second language. *Language Learning*, **71**; 245-279.

Short, D. (1993). Czech. In Comrie, B. & Corbett, G. G. (Eds.) *The Slavonic languages*. London; Routledge; 455-532.

Siegel, S. & Castellan, N.J., Jr. (1988). *Nonparametric statistics for the behavioral sciences*. New York (etc.); McGraw-Hill.

Silva, M.N. (1991). Simultaneity in children's narratives: the case of *when*, *while* and *as*. *Journal of child language* **18**; 641-662.

Slobin, D. I. (1973). Cognitive prerequisites for the development of grammar. In Ferguson, C. A. & Slobin, D. I. (Eds.), *Studies of child language development*. New York; Holt, Reinhart & Winston; 175-208.

Slobin, D.I. (1985). Crosslinguistic evidence for the Language-Making Capacity. In D.I. Slobin (Ed.), *The crosslinguistic study of language acquisition*. Vol. 2: Theoretical issues. Hillsdale, NJ: Lawrence Erlbaum; 1157-1256.

Slobin, D.I. (1993). Adult language acquisition: a view from child language study. In Perdue, C. (Ed.), *Adult language acquisition: cross-linguistic perspectives: The results*. Volume II. Cambridge, U.K.; Cambridge University Press; 239-272.

Smith, C. S. (1992). *The parameter of aspect*. Dordrecht; Kluwer.

Snow, C. (1976). Semantic primacy in first and second language acquisition. Interlanguage *Studies Bulletin* **1**; 137-165.

Sperber, D. & Wilson, D. (1986). *Relevance: communication and cognition*. Oxford; Blackwell.

Sprouse, & Schwartz, (1996). L2 cognitive states and the Full Transfer/Full Access model. *Second language Research* **12**; 40-72.

Starren, M. (2001). The second time: The acquisition of temporality in Dutch and French as a Second language. Ph. D. thesis, LOT, Katholieke Universiteit Brabant; Tilburg.

Stowell, T. (1981). Origins of Phrase Structure. Ph. D. thesis, MIT, Cambridge, MA; MIT Press.

Stowell, T. (1983). Subjects across categories. *The Linguistic Review* **2**; 285-312.

Strömqvist, S. & Day, D. (1993). On the development of narrative structure in child L1 and adult L2 acquisition. *Applied Psycholinguistics* **13** (2); 135-158.

Stunová, A. (1991). In defence of language-specific invarian meanings of aspect in Russian and Czech. In Barentsen, A.A. [et al.] (Eds.), *Studies in Slavic and General Linguistics*, Amsterdam; RODOPI; 291-313.

Thieroff, R. (1992). Tense, aspect and mood categories in European languages. In Bertinetto, P. M. (Ed.), *Eurotyp working papers*, series VI, Berlin; 69-115.

Tinsley, H. E. A. & Weiss, D. J. (2000). Interrater reliability and agreement. In H. E. A. Tinsley & S. D. Brown (Eds.), *Handbook of Applied Multivariate Statistics and Mathematical Modeling*. San Diego, CA: Academic Press; 95-124.

Tsimpli, I. (to appear). Interpretability of features in first and second language acquisition: Greek clitics and determiners. In *AILE* (Acquisition et Interaction en langue étrangère).

Verkuyl, H. (1972). Verbal Aspect in Russian and English?, review of Bacher (1985). Linguistics **25**; 403-420.

Verkuyl, H. (1993). *A theory of aspectuality*. Cambridge, U.K.; Cambridge University Press.

Vendler, Z. (1976). Verbs and Times. In Vendler, Z. (Ed.) *Linguistics in Philosophy*. Ithaca, NY; Cornell University Press; 97-121.

Véronique, D. (1987). Reference to past events and actions in narratives in L2: Insights from North African Learners' French. In Pfaff, C.W. (Ed.) *First and second language acquisition processes*, Cambridge, MA; Newbury House; 252-272.

Slabakova, R. (2002). On viewpoint aspect interpretation and its L2 acquisition In Salaberry, M.R., Shirai, Y. (Eds.), *The L2 acquisition of tense-aspect morphology*, Amsterdam; Benjamins; 363-396.

von Stutterheim, Ch. (1986). *Temporalität in der Zweitsprache*. Berlin; De Gruyter.

von Stutterheim, Ch. & Klein, W. (1987). Quaestio und referentielle Bewegung in Erzählungen. *Linguistische Berichte* **109**; 163-183.

von Stutterheim, Ch. (1991). Narrative and description: Temporal reference in second language acquisition. In Huebner, T. & Ferguson, C. (Eds.), *Crosscurrents in second language acquisition and linguistic theories*, Amsterdam; Benjamins; 358-403.

von Stutterheim, Ch. & Carroll, M. (2003). Typology and information organisation: perspective taking and language-specific effects in the construal of events. In Giacalone Ramat, A. (Ed.), *Typology and second language acquisition*, Berlin; De Gruyter; 156-208.

White, L. (1988). Island effects in second language acquisition. In Flynn, S. & O'Neill, W. (Eds.). *Linguistic Theory in Second Language Acquisition*. Dordrecht; Reidel; 144-172.

S U M M A R Y

Simultaneity takes place whenever two or more events are happening at the same time. Temporal simultaneity - and also its counterpart temporal sequentiality - are the two basic temporal concepts that fall together with categories of tense and aspect (grammatical as well as lexical) into the domain of temporality. Previous studies from the area of second language acquisition have shown that learners often face difficulties when acquiring tense and/or aspect. This holds even true for learners at higher proficiency levels. A considerable amount of research has been done on second language acquisition of sequential temporal ordering, particularly on "The Principle of Natural Order" (e.g., Bailey et al. 1974, von Stutterheim 1991, Klein 1993/1994, Starren 2001 and others). However, there is only one paper that even mentions temporal simultaneity (Buczowska & Weist 1991). In light of these observations, an investigation of temporal simultaneity in the context of second language acquisition is needed.

This dissertation deals with the expression of simultaneity by adult English and German learners of Czech. All three languages employ various types of temporal adverbials, including temporal subordinate clauses (e.g. *while*, *during*, *at the same time*) and phase verb constructions (e.g. *to begin to, to continue to*). However only Czech and English (but not German) make use of aspectual devices when simultaneity is marked. In other words, Czech, English, and German crucially differ in the way in which they encode simultaneity.

In more detail, English has a very regular grammaticalized aspectual system, whereas German does not. I.e., German can convey aspect by lexical devices (such as temporal adverbials and periphrastic constructions), but there is no marking available which systematically expresses grammatical aspect. Czech, like English, has grammaticalized aspect and it is traditionally considered to be "aspect-dominant". But the precise way in which aspectual distinctions are morphologically marked in Czech differs considerably from English. While English only employs the suffix *–ing* (e.g. walk vs. walk-*ing*), Czech uses prefixes (e.g. *pře*-dat 'to hand over') as well as suffixes (e.g. pře-dá-*va*-t 'to be handing over'; křik-*nou*-t 'to scream out once'). Additionally, Czech makes use of suppletive forms (*vzít* vs. *brát* 'to take' vs. 'to be taking'). In some cases, prefixes only change the grammatical aspect of the verb (e.g. vařit vs. *u*-vařit

'to cook' vs. 'to finish cooking'); but most of the time, a change in aspect goes hand in hand with a modification of the Aktionsart (e.g. *dát* 'to give' vs. *pře-dat* 'to hand over'), a feature that is quite characteristic of Slavic aspect in general. Hence, unlike English grammatical aspect, Czech aspect has a lexical as well as a grammatical side.

Several sets of research questions were examined. The focus of the first set was on the expression of simultaneity by native speakers of the three languages. The questions were: Under which conditions are the linguistic devices mentioned above used and how do these devices interact with each other in the respective source language? After establishing a baseline that is grounded in the performance of native speakers and used for further comparisons, another set of research questions concerning learners' performance was formulated: How do English and German learners express simultaneity in the target language? How do they differ from each other and from the target language? Learners' performance was not only contrasted to that of Czech native speakers, but also to their own performance in the respective source language. In addition, differences between learners with various language proficiencies were considered.

Since explicitly marked simultaneity is not common in spontaneous speech, data were collected using an elicitation task. Informants watched eleven short clips and retold each one. The retellings were video-recorded. There were twenty subjects in each native and learner group. Learners were exposed to the stimulus set twice since they had to give a narration both in the target and in the source language.

Qualitative and quantitative analyses of the data produced by native speakers showed that German native speakers, in contrast to English and Czech native speakers, employed only temporal adverbials when expressing simultaneity in German. This pattern specific for German was called "the adverbial style". The patterns found in English and Czech data were more alike: both groups employed aspectual marking either in combination with other lexical devices (e.g. temporal adverbials), or in isolation (e.g. combination of two imperfectives). The dissimilarity between Czech and English native speakers was identified from the rate of occurrences with which aspectual devices occurred in isolation. Here, Czech native speakers made use of aspectual devices more often than English native speakers. Thus, the specific way of expressing simultaneity for Czech native speakers was labeled "the stronger

aspectual style" and that of English native speakers was "the weaker aspectual style".

We now turn to the learners' data. Substantial differences were found at all proficiency levels. German beginners exclusively used the adverbial style whereas the majority of English beginners employed the stronger aspectual style right from the onset of their acquisition. Considering the results obtained from English and German native speakers, these differences can be explained in terms of source language influence. That is, learners start acquiring those features in the target language that are recognizable from the source language and at same time available in the target language ("Transfer to Somewhere Principle"). For example, the source language German lacks grammaticalized aspect and simultaneity is conveyed by temporal adverbials. In contrast, in the target language Czech simultaneity can be expressed both by temporal adverbials and aspectual devices. Hence, German beginners initially used the adverbial style for the expression of simultaneity in Czech because of the make-up of the source language. The same holds true for English beginners in terms of their use of aspectual marking.

Intermediate learners of both source languages employed all three styles (the adverbial, the stronger and the weaker aspectual style) used by Czech native speakers. However, their distribution remained source language driven. German intermediate learners made use of the adverbial style half of the time and English intermediate learners employed not only more aspectual devices than Czech native speakers, but also used them more frequently than in their own source language. These results show that although both learner groups were actively approaching the target language system, they were still using the most prominent linguistic devices from the source language. In both cases, they overused these devices and as a result diverged from the target language.

Interestingly, another increase in the use of aspectual marking for the expression of simultaneity could be observed in the English advanced learners. This increase was caused by dropping the adverbial style at this level completely. In other words, one style that was found in the Czech native speakers' data was missing in the advanced English learners. Even though the adverbial style was still prominent in the German advanced learners, the distribution of the remaining two styles was fairly target language like.

This study shows that for Czech as the target language, the acquisition of simultaneity marking is strongly linked to the acquisition of aspectual marking.

For this reason, differences in aspect in the source and in the target language are a highly relevant explanatory factor for all findings. It has been demonstrated that the grammatical system of the source language decides whether and how easily certain linguistic features of the target language will be acquired. In the case of the expression of simultaneity, the presence or absence of grammaticalized aspect in the source language determines the strategies learners employed. Additionally, this study demonstrates that learners were receptive to the position of a particular morpheme carrying aspectual meaning. This perceptual saliency effect (formulated as "The Perceptual Saliency Hypothesis" appears to also be driven by the respective source language.

However, strong typological similarities between the source and the target language (e.g. between English and Czech) can also be misleading for learners at higher proficiency levels. This suggests that due to the strong resemblance of the first and the second languages, English learners stayed attached to their initial hypothesis about the target language grammar. German learners, on the other hand, who must assume from the beginning that there are more differences than similarities between the first and the second language, were able to revise their initial hypothesis and make less source language biased choices at later stages of acquisition. In light of these findings it was proposed that the value of the typological similarity between a source and a target language follows the law of diminishing returns.

SAMENVATTING

Er is sprake van simultaniteit ('gelijktijdigheid') wanneer twee of meer gebeurtenissen op hetzelfde moment plaatsvinden. Temporele simultaniteit en de tegenhanger hiervan, 'temporele opeenvolging', zijn de twee temporele basisconcepten die samenvallen met de categorie Tense en de grammaticale en lexicale categorie Aspect binnen het domein van de temporaliteit. Eerdere studies op het gebied van de tweede taalontwikkeling hebben aangetoond dat taalleerders vaak moeilijkheden hebben met de verwerving van Tense en/of Aspect. Dit geldt zelfs voor leerders die de taal al vrij goed beheersen. Er is een aanzienlijke hoeveelheid onderzoeken gewijd aan de verwerving van temporele opeenvolging in een tweede taal, met name aan "the Principle of Natural Order" (o.a. Bailey et al. 1974, von Stutterheim 1991, Klein 1993/1994, Starren 2001). Tot op heden is er daarentegen slechts één artikel verschenen dat het onderwerp van de temporele simultaniteit bespreekt (Buczowska & Weist 1991). Deze gegevens in ogenschouw nemend is het een logische stap om nader onderzoek te doen naar temporele simultaniteit in de context van tweede taalontwikkeling.

Dit proefschrift bespreekt de manieren waarop volwassen Engels en Duitse tweede taalleerders van het Tsjechisch simultaniteit uitdrukken. In deze drie talen wordt hiervoor gebruik gemaakt van verschillende types temporele bijwoorden, waaronder temporele ondergeschikte bijzinnen (gemarkeerd door *gedurende*, *terwijl*, *op hetzelfde moment* etc.) en werkwoordsconstructies die een fase uitdrukken (zoals *beginnen te, doorgaan met*). Er wordt echter alleen in het Tsjechisch en Engels (maar niet in het Duits) gebruik gemaakt van aspectuele middelen om simultaniteit uit te drukken. Met andere woorden: het Tsjechisch, Engels en Duits verschillen sterk in de manier waarop ze simultaniteit uitdrukken.

Om precies te zijn: het Engels heeft een heel systematisch grammaticaal aspectueel systeem, terwijl het Duits dit niet heeft. Dit betekent dat het Duits Aspect kan uitdrukken met behulp van lexicale middelen (zoals temporele bijwoorden en omschrijvingen), maar dat er geen notatie beschikbaar is waarmee grammaticale Aspect systematisch kan worden uitgedrukt. Het Tsjechisch heeft net als het Engels grammaticaal Aspect en wordt traditioneel beschouwd als Aspect-dominant. De exacte manier waarop het Tsjechisch de

aspectuele verschillen morfologisch markeert, verschilt echter sterk van die van het Engels. Waar het Engels alleen het suffix –*ing* gebruikt (zoals *walk* 'lopen' vs. *walk-ing* 'aan het lopen zijn'), maakt het Tsjechisch gebruik van zowel prefixen (pře-dat 'overhandigen') als suffixen (*pře-dá-va-t* 'aan het overhandigen zijn/bezig zijn iets te overhandigen'; *křik-nou-t* 'het (één keer) uitgillen'). Daarnaast maakt het Tsjechisch gebruik van aanvullende vormen (*vzít* vs. *brát* 'nemen' vs. 'bezig zijn te nemen'). In sommige gevallen veranderen de prefixen alleen het grammaticale Aspect van het werkwoord (*vařit* vs. *u-vařit* 'koken' vs. 'het koken afmaken'); maar meestal gaat een verandering in Aspect samen met een wijziging van de Aktionsart (*dát* 'geven' vs. *pře-dat* 'overhandigen'), een eigenschap die vrij kenmerkend is voor het Slavische Aspect in het algemeen. Het Tsjechische Aspect heeft dus, in tegenstelling tot het Engelse grammaticale Aspect, zowel een lexicale als een grammaticale component.

Voor dit proefschrift heb ik verschillende sets onderzoeksvragen bestudeerd. De eerste set vragen had betrekking op de uitdrukking van simultaniteit door moedertaalsprekers van het Engels, Duits en Tsjechisch. De vragen waren: onder welke omstandigheden worden de hierboven genoemde taalmiddelen gebruikt en hoe verloopt de interactie tussen deze middelen in de moedertaal van de proefpersonen? Op basis van het taalgebruik van de moedertaalsprekers heb ik een "baseline" vastgesteld, die als uitgangspunt zou gelden voor de verdere analyse. Vervolgens heb ik nog een set onderzoeksvragen geformuleerd met betrekking tot de prestaties van de taalleerders: hoe drukken Engelse en Duitse leerders simultaniteit uit in hun tweede taal? In hoeverre verschillen zij van elkaar en van de moedertaalsprekers van het Tsjechisch? De prestaties van de leerders werden niet alleen vergeleken met die van moedertaalsprekers van het Tsjechisch, maar ook met hun eigen prestaties in de eerste taal. Daarnaast werden de verschillen tussen leerders van verschillende taalbeheersingsniveaus bekeken.

Aangezien expliciet gemarkeerde simultaniteit niet vaak voorkomt in spontane spraak, zijn er data verzameld door middel van een taak die als doel had bepaalde taaluitingen te ontlokken. De proefpersonen moesten voor deze taak elf korte filmpjes bekijken en na elk filmpje voor een camera vertellen wat ze gezien hadden. Voor elke groep moedertaalsprekers en tweede taalleerders waren er twintig proefpersonen. De taalleerders kregen de stimuli twee keer te zien omdat ze de gebeurtenissen in de filmpjes zowel in hun moedertaal als in hun tweede taal moesten navertellen.

Uit de kwalitatieve en kwantitatieve analyse van de data van de moedertaalsprekers kwam naar voren dat moedertaalsprekers van het Duits, in tegenstelling tot die van het Engels en Tsjechisch, alleen gebruik maken van temporele bijwoorden (en niet van grammaticale middelen) wanneer ze simultaniteit in het Duits willen uitdrukken. Dit patroon, dat specifiek is voor het Duits, heb ik "de adverbiale stijl" genoemd. De patronen die gevonden werden in de Engelse en Tsjechische data leken meer op elkaar: beide groepen maakten gebruik van een aspectuele markering, ofwel in combinatie met andere lexicale middelen (zoals temporele bijwoorden), ofwel als op zichzelf staande constructies (zoals een combinatie van twee imperfectief-vormen). Er kwam echter wel een verschil tussen de moedertaalsprekers van het Tsjechisch en Engels naar voren voor wat betreft de hoeveelheid constructies waarin de aspectuele middelen op zichzelf stonden. De Tsjechische moedertaalsprekers maakten vaker gebruik van enkel aspectuele middelen dan de Engelse moedertaalsprekers. De manier waarop Tsjechische moedertaalsprekers simultaniteit uitdrukken heb ik dan ook "de sterkere aspectuele stijl" genoemd; die van de Engelse moedertaalsprekers "de zwakkere aspectuele stijl".

Voor de taalleerders zijn er substantiële verschillen gevonden op alle taalbeheersingsniveaus. Zo gebruikten de Duitse beginnelingen alleen de adverbiale stijl, terwijl de meerderheid van de Engelse beginnelingen al vanaf het begin van het verwervingsproces de sterkere aspectuele stijl gebruikten. Wanneer deze verschillen vergeleken worden met de "baseline", kunnen ze voor beide groepen verklaard worden vanuit de invloed van de eerste taal. Taalleerders verwerven namelijk als eerste die kenmerken van de tweede taal die herkenbaar zijn uit hun eerste taal en tegelijkertijd beschikbaar zijn in de tweede taal (het "Transfer to Somewhere" principe). Zo heeft de eerste taal Duits bijvoorbeeld geen grammaticaal gemarkeerd Aspect en is het daarnaast zo dat simultaniteit in de tweede taal Tsjechisch niet alleen door middel van aspectuele middelen uitgedrukt kan worden, maar ook door middel van temporele bijwoorden. Duitse beginnelingen gebruikten daarom in eerste instantie de adverbiale stijl om simultaniteit uit te drukken in het Tsjechisch. Hetzelfde principe gold voor de Engelse beginnelingen: zij werden bij de expressie van simultaniteit in hun tweede taal beïnvloed door de aspectuele stijl uit hun moedertaal.

De Engelse en Duitse moedertaalsprekers die al wat meer gevorderd waren in de verwerving van het Tsjechisch gebruikten alle drie de stijlen (de adverbiale, de sterkere en de zwakkere aspectuele stijl) die de Tsjechische

moedertaalsprekers ook gebruikten. De verspreiding van deze stijlen werd echter nog sterk beïnvloed door de eerste taal. De meer gevorderde Duitse leerders gebruikten in de helft van de gevallen de adverbiale stijl en de meer gevorderde Engelse leerders gebruikten niet alleen meer aspectuele middelen dan de Tsjechische moedertaalsprekers, maar gebruikten ze bovendien vaker dan in hun eigen taal. Deze resultaten laten zien dat hoewel beide groepen taalleerders de tweede taal steeds beter leerden beheersen, ze nog vaak gebruik maakten van de meest prominente taalmiddelen uit hun eerste taal. Beide groepen pasten deze middelen te vaak toe, waardoor hun taalgebruik afweek van de tweede taal.

Interessant genoeg werd er bij de groep vergevorderde Engelse leerders een verdere toename aangetroffen in het gebruik van de aspectuele markering bij de expressie van simultaniteit. Deze toename werd veroorzaakt door het feit dat leerders het gebruik van de adverbiale stijl op dit niveau compleet achterwege lieten. Met andere woorden: één van de stijlen die de Tsjechische moedertaalsprekers gebruikten, werd door de vergevorderde Engelse tweede taalleerders helemaal niet meer gebruikt. Voor de Duitse vergevorderde leerders gold dat, hoewel de adverbiale stijl nog regelmatig gebruikt werd, het gebruik van de overige twee stijlen al behoorlijk overeenkwam met het systeem van de doeltaal.

Dit onderzoek laat zien dat, voor het Tsjechisch als doeltaal, de verwerving van de markering van simultaniteit sterk gerelateerd is aan de verwerving van Aspect-markering. De verschillen in de manier waarop de eerste en tweede taal Aspect uitdrukken, vormen dan ook een belangrijke verklaring voor de hierboven beschreven bevindingen. Het is aangetoond dat het grammaticale systeem van de eerste taal uiteindelijk bepalend is voor de vraag of en hoe eenvoudig bepaalde aspecten van de tweede taal verworven zullen worden. Voor de markering van simultaniteit is de vraag of Aspect wel of niet grammaticaal wordt uitgedrukt in de eerste taal, van groot belang. Dit onderzoek toont bovendien aan dat taalleerders ontvankelijk zijn voor de positie van een morfeem dat Aspect uitdrukt. Dit effect, beschreven als de "Perceptual Saliency Hypothesis", wordt eveneens tot stand gebracht door de kenmerken van eerste taal van de leerders.

Grote typologische overeenkomsten tussen een eerste en tweede taal (zoals in het geval van het Engels en Tsjechisch) kunnen echter ook misleidend zijn voor meer gevorderde taalleerders. Engelse leerders leken als gevolg van de overeenkomsten tussen hun eerste en tweede taal vast te houden aan

hypotheses omtrent de grammatica van de tweede taal, zoals ze die aan het begin van het verwervingsproces gevormd hadden, zonder die hypotheses in de loop van het proces aan te passen. Duitse leerders, die zich er vanaf het begin van het verwervingsproces op moesten instellen dat er meer verschillen dan overeenkomsten waren tussen hun eerste en tweede taal, waren er daarentegen beter toe in staat om hun hypotheses bij te stellen. Bovendien werden de keuzes die deze leerders in de loop van het proces maakten minder sterk beïnvloed door de kenmerken van hun eerste taal. Deze bevindingen vormden de basis voor de bewering dat typologische overeenkomsten tussen een eerste en tweede taal niet noodzakelijkerwijs een voordeel zijn bij de verwerving van een tweede taal. Met andere woorden: de wisselwerking tussen de twee systemen volgt de "law of diminishing returns".

CURRICULUM VITAE

Barbara Schmiedtová started her university studies in 1993 at the Charles University in Prague (Czech Republic) and one year later continued at the Albert-Ludwigs University in Freiburg (Germany). She also studied at the University of Basel (Switzerland) and at the University of Strasbourg (France). During her undergraduate time, she spent one semester in Boston (USA). In 1998, she received her M.A. degree in Linguistics (special focus on Neurolinguistics and Clinical Linguistics), Philosophy, and Modern German Literature from the Albert-Ludwigs University in Freiburg. The subject of her Master's thesis was an experimental study addressing the processing of word associations in schizophrenia. First, Barbara Schmiedtová worked as a clinical linguist at the Central Psychiatric Clinic in Emmendingen (Germany). In November 1999, she moved to Nijmegen to join the Acquisition Group at the Max-Planck-Institute for Psycholinguistics as a research associate. In May 2000, she was offered a Ph.D. scholarship in order to write a thesis within the frame of the European project *The Dynamics of Learner Varieties* that is coordinated from the MPI Nijmegen. Currently, Barbara Schmiedtová is a postdoctoral research fellow in the *COMIC* Project based in the Production Group at the MPI in Nijmegen. She is investigating the use of spatial expressions in German native speakers' living space descriptions. At the same time, she is preparing her next research project on cross-linguistic comparison of aspectual relations in event encoding. This project is carried out at the University of Heidelberg and Barbara Schmiedtová will work together with Prof. Christiane v. Stutterheim and Dr. Marry Carroll.

MPI SERIES IN PSYCHOLINGUISTICS